CA2 ALPW
A56
1919

ALBERTA LEGISLATURE LIBRARY
3 3398 00437 4285

ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

OF THE

PROVINCE OF ALBERTA

1919

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY

LEGISLATURE LIBRARY
SEP 27 2017
EDMONTON

EDMONTON:
PRINTED BY J. W. JEFFERY, KING'S PRINTER
1920

Digitized by the Internet Archive
in 2019 with funding from
Legislative Assembly of Alberta - Alberta Legislature Library

ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

OF THE

PROVINCE OF ALBERTA

1919

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON:
PRINTED BY J. W. JEFFERY, KING'S PRINTER
1920

PROVINCE OF ALBERTA

OF THE

DEPARTMENT OF PUBLIC WORKS

OF THE

ANNUAL REPORT

FOR

1919

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON, February 24, 1920.

To His Honour

ROBERT GEORGE BRETT,

Lieutenant Governor of the Province of Alberta.

May it please Your Honour:—The undersigned has the honour to submit herewith the Report of the Department of Public Works for the year ending December 31st, 1919.

Respectfully submitted,

A. J. MCLEAN,

Minister of Public Works.

CONTENTS

	Page
Report of Deputy Minister	7
Highways Branch	11
Surveys Branch	39
Drainage Branch	58
Architectural Branch	62
Mines Branch	66
Steam Boilers Branch	74
Accounting Branch	95
Correspondence Branch	97

CONTENTS

	Page
Report of Deputy Minister	7
Highways Branch	11
Surveys Branch	59
Drainage Branch	68
Architectural Branch	82
Mines Branch	86
Steam Boilers Branch	74
Accounting Branch	95
Correspondence Branch	97

REPORT

OF THE

DEPUTY MINISTER OF PUBLIC WORKS

HON. A. J. MCLEAN,
Minister of Public Works,
Edmonton, Alberta.

SIR,—I have the honour to submit herewith the Report of the Department of Public Works for the year 1919.

The work of the Department was carried on very successfully in all branches throughout the year. The conditions under which the work was carried out were somewhat unfavourable, owing to the increasing cost of both labour and material, and the difficulty in securing an adequate supply of either labour or material at the time it was required. A systematic effort was made during the year to secure the services of as many returned men as possible in all branches of our Department, with the object of assisting, as much as possible, the re-establishment of the soldiers.

HIGHWAYS BRANCH.

In the Highways Branch there were two hundred and fifteen bridges constructed, and one hundred and twenty-five repaired, making a total of three hundred and forty dealt with during the year.

There were only a couple of bridges that are deserving of special mention, the rest being of the pile trestle or small timber-truss type. One 125-ft. timber-truss was framed and left to be constructed over the Ghost Pine Crossing on the Banff Trail, as the traffic conditions of the trail were such that the work could not well be undertaken during the season. We expect to have this bridge completed, and ready for traffic, before the next season opens.

The bridge over the Bow River south of Carseland, which was begun during the fall, will consist of four 200-ft. steel spans on concrete piers and abutments. The work is progressing rapidly, and the bridge will undoubtedly be ready for traffic early in the season of 1920.

Final location was made, and the road established, in connection with several of our Main Highways. The Main Highway from Athabasca through Edmonton, Calgary and Lethbridge to Coutts, on the International Boundary, the Main Highway from Walsh through Lethbridge to the Crow's Nest Pass, the Main Highway from Medicine Hat through Calgary to Banff, the Main Highway from Lacombe to Compeer, and the Main Highway from Edmonton to Lloydminster, were finally established.

Considerable amount of construction work was done on the Calgary-Banff road; the road between Airdrie and Youngstown; and the road west of Edmonton between Gainford and Entwistle. Some work was also done on the new road from Calahoo Reserve on the Main Highway between Edmonton and Whitecourt.

Maintenance work was carried out on all of the Main Highways that were established, and on those that it is proposed to establish at a later date.

The construction and maintenance of the ordinary roads was carried out in the usual manner, but owing to the early closing of the season, a considerable amount of work that was under consideration could not be undertaken.

The operation of the ferries was carried out very successfully, although under considerable difficulties, on account of the low water in several of the streams due to the dry season.

In the Report of the Engineer of Highways will be found a full list of all work done in connection with the Highways Branch.

SURVEYS BRANCH.

In the Surveys Branch the same number of surveyors was employed as was in the field in 1918. An additional surveyor was employed for two months in the fall in connection with the establishment of the Main Highway locations. As the field season was shorter than usual, a large number of requests for surveys had to be carried over to another year.

DRAINAGE BRANCH.

The work of the Drainage Branch has grown throughout the year, four more drainage projects being received, making a total of fourteen drainage districts under consideration.

In Drainage District No. 1, at Holden, the work has proceeded satisfactorily, and, if as good progress continues to be made, it should be completed before the end of 1920.

In District No. 6, at Viking, the work was practically completed during the year.

In District No. 7, at Dickson, the work was begun, and as it was not very extensive in this district, it will, undoubtedly, be completed next season.

Tenders were called for the work to be done in three Districts: No. 4, at Daysland; No. 5, at Bawlf, and No. 8, at Forestburg. When the tenders were received in connection with District No. 5, at Bawlf, so many of the petitioners withdrew that it was considered unwise to carry on the work. In District No. 10, at Wetaskiwin, the petitioners withdrew to such an extent that the formation of the Drainage District was disallowed.

The question of irrigation, and the formation of Irrigation Districts, has become so important that it was found that a new and more comprehensive Act than The Irrigation District Act of 1913 was needed to adequately deal with the large irrigation projects.

MINES BRANCH.

The Mines Branch reports that a total of 5,022,412 tons of coal was mined in the Province in 1919. This is 1,126,208 tons less than in 1918, and the decrease in output is largely due to the amount of mined coal carried over from 1918. There were only 21 fatal accidents and 110 non-fatal accidents in the mining industry during the year. There are Mine Rescue Cars and six stations in operation, and training has been carried on in Mine Rescue and First Aid work throughout the year in a satisfactory manner.

The detailed report of the Coal Mines Branch is being published separately.

ARCHITECTURAL BRANCH.

In the Architectural Branch there was a great increase of work during the year, both in construction work undertaken by this Department, and in consulting services in connection with work undertaken by other Departments of the Government.

At the Provincial Asylum at Ponoka, the construction of the male dormitory and the male patients' dining hall has been carried on, and the work is now very nearly completed.

The addition to the main building, providing for the nurses' dining-room and additional cold storage space, is also nearing completion.

Two pairs of semi-detached residences for the attendants have been completed and are now occupied.

The Agricultural Schools at Raymond, Youngstown and Gleichen have been under construction during the year, as well as residences for the Principals in connection with the Agricultural Schools at Vermilion, Olds, and Claresholm, and work was begun on the power plants and work-shops of the schools at Raymond and Youngstown. The erection of the Court House at Medicine Hat has progressed satisfactorily. The roof is now on and the building enclosed so that work can proceed during the winter months.

Plans are being prepared for the Normal School and Institute of Technology, and for the Institute for Feeble-minded Children.

The maintenance and operation of the various Provincial buildings has been very satisfactory during the year.

The Report of the Provincial Architect gives all details of the operation of this Branch.

STEAM BOILERS BRANCH.

Administration of The Steam Boilers Act was carried out during the year in the usual satisfactory manner, by the Chief Engineer of the Steam Boilers Branch and his staff.

There is a slight increase in the number of boilers inspected, but the number of certificates granted shows a slight decrease, which appears to be due to the number of qualified engineers who have been released from the army since the conclusion of the war, and have re-

turned to take up their former employment. It is very gratifying to be again able to record that no loss of life or serious personal injury has occurred owing to the failure of a boiler.

INSTITUTIONS.

The Public Institutions have been operated in a very successful manner. Notwithstanding the increased cost of materials, and the higher wages paid, it is to be noted that the *per capita* cost of the Institutions has been decreased in the Hospital for Returned Soldiers at Red Deer, and a very slight decrease has also been effected at the Hospital for the Insane at Ponoka. The unfavourable agricultural season reduced the revenue of all the institutions, and Lethbridge Gaol was most seriously affected in that way.

The detailed reports of the various institutions is being published separately.

CORRESPONDENCE AND ACCOUNTING.

The Reports of the Accountant's Branch and Correspondence Branch both show an increase over work of previous years.

REVENUE.

There was a considerable increase in the amount of Revenue received which was almost all derived through the operation of The Mine Owners' Tax Act.

During the year most of our employees who had received leave of absence, for the purpose of Military Service, returned from overseas and were reinstated in their former positions.

Respectfully submitted,

L. C. CHARLESWORTH,

Deputy Minister.

HIGHWAYS BRANCH

EDMONTON, February 2, 1920.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister, Department of Public Works,
Edmonton.

SIR,—I have the honour to herewith submit the report of the work performed by the Highways Branch of the Department of Public Works, during the year ending December 31st, 1919.

Owing to the increased cost of labour and material, a considerably smaller amount of work was performed during this year than was performed for the same expenditure in previous years.

There were two hundred and forty bridges dealt with during the year. Two hundred and fifteen of these were constructed and one hundred and twenty-five were repaired. On account of the difficulty that we experienced in getting labour and material, a considerable number of bridges, which we expected to have completed during the year, have had to be left over until next year, as the material was received too late in the season to admit of construction being completed this year.

Most of the bridges built were timber structures of the pile-trestle type, constructed to our standard specifications. There were a few, however, which consisted of timber-truss bridges, details of which are as follows:

A bridge consisting of one 135-ft. timber truss with a 20-ft. approach was erected over Willow Creek near Granum, on the Calgary-Banff Trail.

There were several truss bridges erected. Three of these bridges were each a single 60-ft. timber truss and one consisted of a 40-ft. timber truss. The timber was also framed for a 125-ft. timber truss and four 18-ft. spans to be erected at a later date over the Ghost River, as it was not considered advisable to erect this bridge during the heavy summer traffic.

A single 70-ft. timber truss was erected over the Rosebud River at Wayne. Over the Little Bow River at Blackfoot Crossing, a single 80-ft. timber truss was erected. Over the Little Bow River near Carmangay a single 80-ft. timber truss was erected and a 60-ft. timber truss was erected over the Little Bow River south-easterly from Champion.

A bridge consisting of three 60-ft. trusses was constructed from round timber and erected over Beaver River at Beaver Crossing. There were also two timber truss bridges erected over the Beaver Lodge River, one near Beaver Lodge which consisted of a 50-ft. truss and two 18-ft. approaches, and one at Hythe which consisted of a single 50-ft. truss.

Material was purchased and assembled, and a start made on the bridge over Bow River, south of Carseland. This bridge will consist of four 200-ft. steel spans on concrete piers and abutments. Good progress is being made, and it is hoped that the steel will be in place before the ice goes out in the spring and the bridge opened for traffic early in the spring of 1920.

A considerable amount of reconstruction work was done on the Main Highway from Calgary to Banff. The bridges have all been put in good repair, a large number of them having been reconstructed during the season. This road, with proper maintenance, should now be in position to carry the heavy traffic that has been growing from year to year.

Considerable amount of work was done on the Main Highway between Airdrie and Alsask and the road should now be in good condition as far east as Youngstown.

On the road west of Edmonton a crew was at work during the year, carrying the Main Highway through from Gainford to Entwistle, and another crew was at work on the road from St. Albert to Whitecourt, opening new road through the Calahoo Reserve.

A large amount of maintenance work was carried on in connection with the Main Highways. It is very difficult to have this work carried out properly, as the people who are intrusted with the work of dragging roads do not always undertake the work at a time when it can be done to the best advantage.

A large amount of work was done in construction and maintenance of ordinary roads. The high prices paid for labour in other lines of work made it necessary to considerably increase the wages paid to those employed on road work. This naturally resulted in considerably less work being performed for the expenditure made than was anticipated at the beginning of the year. The early heavy snow falls and cold weather almost entirely shut down our work much earlier than is usual, and a considerable amount that we expected to have completed had to be left undone.

We only built and installed one new ferry during the season, that being north of Greencourt on the Athabasca River. Twelve new scows were constructed for ferries already in operation. The operation of the ferries was carried out very successfully during the year, notwithstanding the low water of the Red Deer and Bow Rivers.

I append hereto a full list of the work undertaken by the Highways Branch during the year.

Your obedient servant,

J. D. ROBERTSON,

Engineer of Highways.

MAINTENANCE OF BRIDGES, 1919.

Arrow Wood Creek	South of Gleichen.
Bow River	3-21-19-4.
Bow River	9-21-21-4.
Bow River	34/35-25-4-5.
Backwater of Bow River	South of Gleichen.
Big Weed Creek	S. 30-49-1-5.
Bullhead Creek	16-12-5-4.
Blindman River	15/16-7-29-4.
Burnt River	N.W. 11-28-4-6.
Battle River	22-40-14-4.
Battle River	19/20-45-7-4.
Creek	N.W. 28-66-22-4.
Creek	W. 31-66-19-4.
Crowfoot Creek	S.W. 28-23-21-4.
Creek	12-2-27-4.
Creek	28/29-10-27-4.
Creek	28/29-10-27-4.
Creek	N.W. 21-10-27-4.
Creek	N.W. 10-10-27-4.
Creek	15/16-10-27-4.
Creek	S.E. 34-25-3-5.
Creek	16/17-31-27-4.
Creek	12-51-22-4.
Creek	23/56-14-5.
Creek	34/35-75-15-5.
Creek	29/30-10-21-4.
Creek	1-9-22-4.
Creek	25/26-57-8-5.
Creek	11/14-50-26-4.
Creek	S. 4-49-2-5.
Creek	23/24-49-1-5.
Creek	W. 14-49-4-5.
Creek	16/17-50-24-4.
Creek	20/29-40-26-4.
Creek	23/12-5-4.
Creek	W. 10-10-4-4.
Creek	N.E. 4-10-4-4.
Creek	S.E. 4-10-4-4.
Creek	8/9-11-4-4.
Creek	13-9-26-4.
Creek	17/18-8-25-4.
Creek	29-6-25-4.
Creek	15-16-28-4.
Creek	15-16-28-4.
Creek	23-2-5.
Creek	N.W. 29-20-29-4.
Creek	N.W. 16-26-29-4.
Creek	18/19-20-1-5.
Creek	3/34-33/34-2-5.
Creek	31-7-1-5.
Creek	S. 5-42-26-4.
Creek	3, 4-42-27-4.
Creek	10/15-42-27-4.
Creek	15/16-42-27-4.
Creek	E. 25-58-1-5.
Creek	E. 14-60-1-5.
Creek	4-39-27-4.
Creek	W. 31-13-3-4.
Creek	W. of S.W. 22-14-3-4.
Creek	N.E. 21-14-3-4.
Creek	6-39-19-4.
Creek	23-48-14-4.
Creek	6/21-57/58-21-4
Creek	River Lots 7 and 8-54-26-4.
Creek	E. 12-10-17-4.
Creek	18/13-50-8/9-4.
Creek	10/11-54-19-4.

Creek	2/3-54-14-4.
Creek	22/23-58-15-4.
Creek	21/22-58-15-4.
Creek	45-46-23-4.
Dogpound Creek	S.W. 24-28-5-5.
Dry Creek	19/30-58-23-4.
Elbow River	12-23-5-5.
Fish Creek	E. 1-23-3-5.
Hangstone Creek	Near Ft. McMurray.
Irrigation Ditch	2/3-5-23-4.
Iron Creek	N.E. 29-43-10-4.
Iron Creek	14/15-43-10-4.
James River	14-34-5-5.
Knee Hill Creek	1/6-31-25/26-4.
Knee Hill Creek	24-31-28-4.
Knee Hill Creek	12-31-26-4.
Knee Hill Creek	N.E. 15-29-23-4.
Knee Hill Creek	21/28-29-24-4.
Knee Hill Creek	S.W. 15-29-23-4.
Knee Hill Creek	N.W. 14-29-23-4.
Little Red Deer River	29-29-5-5.
Lone Pine Creek	13-30-26-4.
Lone Pine Creek	3/33-30-31-26-4.
Lone Pine Creek	17/20-31-27-4.
Lone Pine Creek	14/20-31-27-4.
Little Red Deer River	19/30-35-1-5.
Little Bow River	S.E. 31-13-23-4.
Lobstick River	34/35-53-9-5.
Mill Creek	35/36-51-23-4.
Mechiche Creek	N.W. 11-29-20-4.
Medicine River	At Evarts.
Milk River	3-2-13-4.
Muskeg Creek	9/10-15/16 Twp. 45-1-5.
Narrows Dry Lake	N.W. 22-33-3-4.
Narrows Lesser Slave Lake	Grouard.
Over Moose River	72-2-5.
Oldman River	10-9-26-4.
Oldman River	Pincher Creek.
Pigeon Creek (Outlet of Pigeon Lake)	46-28-4.
Red Deer River	13/14-23-1-4.
Red Willow River	25/30-70-10/11-6.
Red Deer River	9-22-13-4.
Red Deer River	36-28-4.
Ross Creek	14/11-53-19-4.
Ross Creek	14/15-53-19-4.
Six Mile Coulee	Lethbridge.
Subway	25-40-27-4.
Stony Creek	N. 24-64-21-4.
Sturgeon River	East 29-55-22-4.
Sturgeon River	St. Albert.
Stony Creek	N. 22-50-8-4.

CONSTRUCTION AND RE-CONSTRUCTION OF BRIDGES, 1919.

STREAM	LOCATION	SIZE AND CLASS OF BRIDGE
Angling Creek	15-62-2-4	One 18-ft. span on piles.
Beaver River	N.E. 20-63-12-4	Three 18-ft. spans on piles.
Big Hill Creek	3-26-4-5	One 60-ft. timber truss.
Beaupre Creek	15-26-5-5	One 20-ft. span on piles.
Blackmud Creek	7/8-50-24-4	Three 20-ft. pile spans.
Blackmud Creek	8/17-50-24-4	Two 20-ft. spans on piles.
Battle Creek	N.W. 13-8-1-4	Two 25-ft. pile spans.
Beaver Lodge River	20-72-10-6	One 50-ft. T. T., two 18-ft. pile spans.
Beaver Lodge River	11/14-73-11-6	One 50-ft. timber truss.
Beaver Lodge River	5/6-74-9-6	Two 18-ft. pile spans.
Beaver River	10/15-62-2-4	Three 60-ft. round timbers.
Creek	34/35-67-22-4	Three 20-ft. pile spans.
Creek	8-64-24-4	One 24-ft. span on piles.
Creek	6-66-20-4	Two 18-ft. spans on piles.
Creek	30-66-23-4	Fifteen 12-ft. spans on piles.
Creek	S. 6-67-22-4	One 20-ft. span on piles.
Creek	N.E. 30-67-23-4	One 16-ft. span on piles.
Creek	R. L. 108-13-5	One 60-ft. pile trestle.
Creek	20-63-12-4	Seven 20-ft. pile spans.
Coulee	1-25-2-5	One 20-ft. span on piles.
Coulee	10-25-2-5	One 16-ft. pile span.
Creek	33/34-25-1-5	One 18-ft. span on piles.
Creek	27/28-25-1-5	One 18-ft. span on piles.
Creek	15/22-61-3-5	One 20-ft. span on piles.
Creek	17/18-38-8-4	Two 16-ft. spans on piles.
Creek	34/35-38-8-4	Two 16-ft. spans on piles.
Creek	W. 11-35-11-4	One 16-ft. pile span.
Creek	S. 27-35-11-4	One 18-ft. span on piles.
Creek	W. 34-35-12-4	One 18-ft. pile span.
Creek	N.W. 4-3-26-4	One 20-ft. span on piles.
Creek	S.E. 24-1-24-4	One 20-ft. span on piles.
Creek	N. 35-3-27-4	One 20-ft. span on piles.
Creek	N. 36-3-27-4	One 18-ft. span on piles.
Creek	34/35-5-19-4	One 20-ft. pile span.
Coal Creek	24-26-5-5	One 60-ft. timber truss.
Creek	Indian Reserve	One 20-ft. span on piles.
Creek	Indian Reserve	One 22-ft. span on piles.
Creek	2/3-27-2-5	One 18-ft. span on piles.
Creek	N.W. 34-26-2-5	One 18-ft. span on piles.
Creek	N.W. 24-29-5-5	One 24-ft., one 27-ft., one 33-ft. mud sills.
Creek	N.W. 20-29-5-5	One 24-ft., one 31-ft., one 32-ft., one 24-ft., one 28-ft., all on mud sills.
Creek	N.E. 25-29-6-5	One 24-ft., one 21-ft., one 24-ft. mud sills.
Creek	N.W. 25-29-6-5	One 22-ft., one 20-ft., one 21-ft., one 23-ft. mud sills.
Creek	N.E. 26-29-6-5	One 22-ft. span on mud sills.
Creek	N. 20-45-19-4	Two 20-ft. spans on piles.
Creek	N. 10-45-18-4	One 20-ft. pile span.
Creek	15/16-43-18-4	One 12-ft. frame bent.
Creek	9/16-43-18-4	One 12-ft. span.
Creek	13-43-18-4	One 20-ft. pile span.
Creek	N. 3-43-18-4	One 18-ft. span on piles
Creek	3/15-46-21-4	One 16-ft. pile span
Creek	N.E. 33-31-5-5	Two 20-ft. pile spans.
Creek	23/26-31-28-4	Three 20-ft. pile spans
Creek	N.W. 35-29-25-4	One 80-ft. timber truss
Creek	28/33-53-13-5	One 60-ft. timber truss, one 20-ft. pile span.
Creek	16-54-14-5	One 20-ft. crib span.
Creek	S. 4-56-15-4	One 20-ft. crib span.

STREAM	LOCATION	SIZE AND CLASS OF BRIDGE
Creek	5/32-76/77-21-5	One 20-ft. pile span.
Creek	34-76-14-5	One 20-ft. pile span.
Creek	N.W. 11-73-10-5	One 16-ft. pile span.
Creek	6-73-5-5	One 20-ft. pile span.
Creek	9/16-77-21-5	Two 20-ft. pile spans.
Creek	W. 18-77-20-5	One 16-ft. pile span.
Creek	17/18-77-20-5	One 16-ft. pile span.
Creek	3-73-4-5	One 14-ft. crib span.
Creek	13-24-26-4	Two 20-ft. pile spans
Creek	7-24-23-4	One 20-ft. span on piles.
Creek	11/14-23-24-4	Two 20-ft. spans on piles.
Creek	11, 12, 13, 14-24-22-4	One 20-ft. span on piles.
Creek	E. 8-23-23-4	One 20-ft. span on piles.
Creek	13/12-23-24-4	One 20-ft. span on piles
Creek	25/26-31-17-4	One 18-ft. span on piles.
Creek	9/10-33-18-4	One 12-ft. frame bent.
Creek	21/22-33-18-4	One 18-ft. pile span
Creek	3/10-31-17-4	One 12-ft. frame bent.
Creek	N.E. 17-31-15-4	One 20-ft. pile span.
Creek	S.E. 1-32-18-4	One 18-ft. pile span.
Creek	S. 1-31-16-4	One 12-ft. frame bent.
Creek	14/15-19-29-4	Three 20-ft. spans on piles.
Creek	21/22-36-4-5	
Creek	13/14-35-26-4	One 18-ft. span on piles.
Creek	10/15-36-28-4	One 18-ft. span on piles.
Creek	4-35-26-4	One 18-ft. span on piles.
Creek	29-14-22-4	One 60-ft. truss on piles.
Creek	4/5-14-24-4	One 80-ft. timber truss.
Creek	N.W. 4-14-23-4	One 80-ft. timber truss.
Creek	N.E. 17-58-9-5	One 20-ft. pile span.
Creek	5/6-58-6-5	Three 20-ft spans on piles.
Creek	W. 18-56-9-5	Three 20-ft. pile spans.
Creek	S. 19-53-6-5	One 20-ft. pile span.
Creek	7/12-53-5/6-5	One 20-ft. span on piles.
Creek	W. 18-53-6-5	One 20-ft. pile span.
Canyon	1/2-50-2-5	
Creek	W. 20-48-25-4	One 20-ft. span on piles.
Creek	E. 8-49-26-4	One 20-ft. span on piles.
Creek	12/13-48-27-4	One 18-ft. and one 14-ft. pile spans.
Creek	9/16-50-24-4	Three 20-ft. pile spans.
Creek	N. 21-50-1-5	Two 18-ft. spans on piles.
Creek	3/4-50-2-5	One 14-ft. frame span.
Creek	S. 4-48-27-4	One 20-ft. pile span.
Creek	24-50-26-4	Three 20-ft. spans on piles.
Creek	25/26-40-27-4	One 16-ft. pile span.
Creek	19/20-41-26-4	One 16-ft. pile span.
Creek	29/30-41-26-4	One 16-ft. pile span.
Creek	11/12-40-2-5	One 16-ft. pile span.
Creek	20/21-9-8-4	Two 20-ft. pile spans.
Creek	28/29-9-8-4	Two 20-ft. spans on piles.
Creek	1-8-6-4	One 20-ft. pile span.
Creek	31/36-5-6/7-4	One 20-ft. pile span.
Creek	13-9-7-4	One 16-ft. pile span.
Creek	N.E. 11-9-7-4	One 20-ft. pile span.
Creek	35/36-11-17-4	One 16-ft. pile span.
Creek	7-6-26-4	One 16-ft. pile span.
Creek	35/36-15-28-4	Two 18-ft. pile spans.
Creek	W. 7-20-2-5	One 20-ft. frame span.
Creek	S.W. 18-32-22-4	Three 20-ft. pile spans.
Creek	S. 16-34-22-4	One 12-ft. frame span.
Creek	19/20-2-29-4	One 30-ft. timber truss.
Creek	23/24-42-27-4	One 16-ft. pile span.
Creek	3/4-42-27-4	One 16-ft. pile span.
Creek	9/10-62-27-4	Five 18-ft. pile spans.
Creek	W. 14-63-27-4	One 20-ft. pile span.

STREAM	LOCATION	SIZE AND CLASS OF BRIDGE
Creek	E. 14-63-27-4	One 20-ft. pile span.
Creek	1/2-58-2-5	Two 20-ft. pile spans.
Creek	N. 10-70-26-4	One 52-ft. round timber span.
Creek	N. 33-81-4-6	Two 18-ft. pile spans.
Creek	13/14-83-23-5	Two 16-ft. pile spans.
Creek	3/4-74-9-6	Two 18-ft. pile spans.
Creek	22/23-74-10-6	Two 18-ft. pile spans.
Creek	1/2-71-11-6	One 16-ft. frame bent.
Creek	N.E. 20-72-4-6	Two 18-ft. spans on piles.
Creek	10-73-5-6	One 18-ft. pile span.
Creek	E. 12-74-10-6	Two 18-ft. pile spans.
Creek	31/6-38/39-3-5	One 14-ft. frame bent.
Creek	N. 34-37-3-5	One 18-ft. pile span.
Creek	25/26-38-4-5	One 18-ft. pile span.
Creek	34/35-37-3-5	Two 20-ft. pile spans.
Creek	31/36-37-2/3-5	Three 20-ft. pile spans.
Creek	20/21-38-23-4	Nine 20-ft. spans.
Creek	W. 6-38-3-5	One 16-ft. span.
Creek	20/21-38-5-5	One 30-ft. span on piles.
Creek	11/12-38-4-5	One 16-ft. pile span.
Creek	10/11-14-6-4	One 20-ft. pile span.
Creek	N. 31-55-3-4	Two 16-ft. spans on piles.
Creek	30/31-61-3-4	One 20-ft. span on piles.
Creek	7/18-37-15-4	One 20-ft. pile span.
Creek	3/34-40/41-17-4	Two 16-ft. pile spans.
Creek	7/12-39-17/18-4	One 16-ft. pile span.
Creek	10/15-39-17-4	Three 16-ft. pile spans.
Creek	9/10-40-16-4	Two 10-ft. pile spans.
Creek	8/9-39-15-4	One 16-ft. pile span.
Creek	S.E. 9-52-3-5	Two 16-ft. pile spans.
Creek	N.E. 9-52-3-5	Three 18-ft. pile spans.
Creek	N.W. 27-52-3-5	Two 18-ft. pile spans.
Creek	25-64-21/22-4	One 18-ft. pile span.
Creek	8-59-23-4	One 18-ft. pile span.
Creek	13-60-24-4	Two 16-ft. pile spans.
Creek	9/20-58-22-4	Three 18-ft. pile spans.
Creek	25-64-21/22-4	One 18-ft. pile span.
Creek	25/26-61-24-4	One 20-ft. pile span.
Creek	1-55-1-5	Five 22-ft. pile spans.
Creek	21/22-53-10-4	Three 16-ft. spans on piles.
Creek	E. 1-55-22-4	One 14-ft. frame span.
Creek	N.E. 14-1-11-4	One 20-ft. pile span.
Creek	S. 6-4-17-4	One 20-ft. pile span.
Creek	29-46-26-4	Two 20-ft. pile spans.
Creek	25/30-46-26/27-4	One 20-ft., three 12-ft. pile spans.
Creek	26/27-46-25-4	Three 20-ft. spans on piles.
Creek	11/14-45-28-4	Three 20-ft. spans on piles.
Creek	32/33-46-26-4	One 20-ft., two 16-ft. pile spans.
Creek	N. 36-45-28-4	Three 20-ft. pile spans.
Creek	N. 2/11-46-28-4	Two 18-ft. pile spans.
Creek	11/47-3-5	Two 20-ft. pile spans.
Creek	10/11-53-22-4	One 16-ft. span on piles.
Deer Fish Creek	21/28-28-12/13-4	Four 20-ft. pile spans.
Freeman River	N.E. 13-62-7-5	One 80-ft. timber truss.
Fallen Timber River	N.W. 34-31-5-5	Two 50-ft. round timber.
Ghost River	13-26-6-5	One 125-ft. span, four 18-ft. pile spans.
Graburn Creek	N.W. 11-8-1-4	Two bridges, one 25-ft. span and one 27-ft. span.
Horse Creek	8-26-4-5	One 60-ft. timber truss.
Iron Creek	20/21-44-11-4	Two 20-ft. pile spans.
Kipp Coulee	W. 6-7-18-4	Two 20-ft. pile spans.
Lone Pine Creek	12/13-31-27-4	One 60-ft. Howe truss.
Mouth Ross Creek		Two 20-ft. pile spans.

STREAM	LOCATION	SIZE AND CLASS OF BRIDGE
Muskeg Creek	9/10-15/16-45-1-5	One 26-ft. span on mud sills.
Narrows Shooting Lake	S.E. 9-37-17-4	Three 16-ft. pile spans.
Old Fort Creek	Stony Indian Road	One 40-ft. timber truss.
Old Fort Creek	Stony Indian Road	One 22-ft. span on piles.
Point Aux Pins Creek	14/15-53-22-4	Three 20-ft. pile spans.
Paddle River	W. 31-57-6-5	Three 20-ft. spans on piles.
Pot Hole Creek	17-7-21-4	Eight 24-ft. pile spans.
Pigeon Creek	17/18-45-27-4	Three 20-ft. pile spans.
Ravine, foot of Bald Hill	2-69-23-4	Three 20-ft. pile spans.
Rosebud River	7-28-19-4	One 70-ft. timber truss.
Ravine	14/15-53-22-4	One 16-ft. pile span.
Ravine	L. 34-81-4-6	Two 18-ft. pile spans.
Red Water	28/29-57-21-4	Three 20-ft. pile spans.
Rodberg Creek	23/24-46-23-4	One 20-ft., two 10-ft. pile spans.
Subway	W. ½ 32-24-2-5	Subway.
Sucker Creek	1/2-60-22-4	Two 18-ft. pile spans.
Willow Creek	11/14-11-27-4	One 135-ft. Howe truss span.

BRIDGES CONSTRUCTED, RE-CONSTRUCTED AND REPAIRED BY THE DEPARTMENT IN 1919, IN ADMINISTRATION OF M.D. TRUST FUNDS.

Bridge in Sec. 9-3-25-4	Reflooring.
Bridge N.W. 11-9-28-4	One 20-ft. pile span.
Bridge 26-24-5-5	Repairs.
Bridge 8-17 Twp. 23-22-4	Repairs.
Bridge 11-1-2-4	One 26-ft. span on piles.
Bridge East 1-8-6-4	One 20-ft. span on piles.
Bridge N.E. 4-10-4-4	Repairs.
Bridge S.E. 4-10-4-4	Repairs.
Bridge N. 10-10-4-4	Repairs.
Bridge 23-8-4-4	One 16-ft. span, re-construction.
Bridge 36-11-3-4	Repairs.
Bridge 1/2-71-11-6	One 16-ft. frame bent span.
Bridge W. 24-74-9-6	One 18-ft. span on piles.
Bridge 3/4-74-9-6	Two 18-ft. spans on piles.
Bridge N. 10-84-22-5	Three 16-ft. spans on piles.
Bridge 14-70-26-4	One 40-ft. round timber.
Bridge 10-70-26-4	One 52-ft. round timber.
Bridge 2/3-14-6-4	One 20-ft. span, re-construction.

MAIN HIGHWAYS, 1919.

Calgary to Edmonton.
Calgary to Banff.
Calgary to Medicine Hat.
Calgary to Macleod.
Walsh to Crow's Nest Pass.
Lethbridge to Coutts.
Lethbridge to Waterton Lakes.
Lethbridge to High River.
Airdrie to Alsask.
Lacombe to Compeer.
Wetaskiwin to Hayter.
Edmonton to Chauvin.
Edmonton to Lloydminster.
Edmonton to Jasper Park.
Edmonton to Athabasca.
Edmonton to Holmes Crossing.
Vegreville to Cold Lake.
St. Albert to Whitecourt.
Athabasca to Peace River.
Red Deer to Rocky Mountain House.
Peace River to Grande Prairie.

ORDINARY ROADS, 1919.

East of 4 to 33-29/30-7-4. Grading road.
South of 1 to 6-26/30-4/5-4. Grading and culverts.
North and south of Oyen. Grading.
East of 4 to 33-29/30-6-4. Grading.
Empress Br. to 35/36-23-1-4. Grading and filling sloughs.
Between Twps. 50/54-3-4. Grading and filling holes.
North of Lloydminster on 4th Mer. Grading and culverts.
North of Islay. Grading.
Between 3/4 and 33/34-54/53-5-4. Cutting out road.
North of 31-51-3-4. Cutting out road.
North of 23 and west of 26 and 35-47-3-4. Dragging.
Between 50/51-52-1/2-4. Dragging.
East of 5 to 32-67-21-4. Cutting out and grading.
Athabasca to Lac La Biche. Cutting and grading.
South 1 to 5-66-22-4. Building culvert.
South of 3-66-19-4. Grading.
West of 3 to 27-66-19-4. Grading.
Athabasca Landing to Lake Baptiste. Cutting and grading.
North R.L. 12-67-24-4. Opening road.
Between 10/15-68-24-4. Opening road.
Between 4/5-8/9-65-20-4 and west. Grading.
West of 66-21-4. Grading.
East of Athabasca to Donalville. Grading and filling.
Between 66/67-22-4. Grading.
North of 8-67-22-4. Grading.
From between lots 1/9 to 8/24-66/67-24-4. Grading.
Between 8/9-68-24-4. Dragging.
North of 31-67-24-4. Dragging.
Between 14/15-68-24-4. Opening road.
East of 25/36-66-24-4 and north to Lake. Cutting out and grading.
North Athabasca 66/67 and 68-22-4. Cutting out and grading.
North of 1 to 3 and between 10/15-67-23-4. Grading.
North of 65-23/24-4. Grading.
St. Paul des Metis to Brosseau. Grading.
Between 5/6, 7/8-60-10-4. Grading.
St. Lina to Grandin. Grading.
Victoria to Lac La Biche via Whitefish Lake. Grading and culverts.
South of Plamondville. Dragging.
North of 31 to 36-59-16-4. Dragging.
From Arming to Garner Lake. Grading.
In 2/3, 9 and 10-68-16-4. Grading.
St. Paul to N.E. of 33-52-9-4. Grading.
West of St. Lina and S. of 25 and 26-61-11-4. Grading and filling.
Between 4 and 5-60-17-4. Grading.
Plamondville to Lac La Biche. Grading and filling.
South of 13 to 18-64 and 65-12-4. Grading and culverts.
Between 29/30-56-10-4. Grading.
Between 9/16-56-12-4. Grading.
South of 17-60-11-4. Grading.
North 34-58-11-4. Grading.
West 2-61-9-4. Grading and filling.
Between 12/13-56-11-4. Grading.
Between 20/21-57-10-4. Corduroy and culvert.
Between 2/4, 5/6-58/59-10-4. Grading.
N. and E. 18-5-17 and through 2-59-10-4. Diversion and corduroy.
Between 23/26-60-10-4. Grading.
North of 23-60-9-4. Grading.
West of Clarkville. Dragging.
Between Tps. 60/61-8/9-4. Dragging.
Between 5/6 to 17/18-61-10-4. Grading.
East of 1 to 35-62-11-4. Improvement of road.
North of 23 and 24-61-10-4. Corduroy and fill.
Between 4 and 5-61-17-4. Grading.
East of 1 to 12-60-10-4. Improvement of road.
East of 13 and 24-60-10-4. Improvement of road.
Between Arming P.O. and Ashmont P.O. Improvement of road.
North of 11 and 12-68-17-4. Improvement of road.
South of 2 to 4-67-14-4. Improvement of road.

N.E. of 11-24-20-4. Grading.
Between 7/8-28-19-4. Grading.
Between 28/29-23-19-4. Culvert and side hill cutting.
Millicent to Red Deer River. Grading and fill.
Between 19/30-46-5-4. Grading and fill.
Bassano to bridge Bow River. Grading and culverts.
S. 14 to 16-20-20-4. Grading and culverts.
Cluny to Milo. Grading and culverts.
S. of 21 and 22-24-21-4. Grading and culverts.
Between 15/16-23-21-4. Grading and culverts.
East of 18 and 19-18-19-4. Grading and culverts.
East of 4 and 9 and west of 27 and 34-19/20-20-4. Grading and fill.
East of 17-18-18-4. Culverts.
Between 11/12-22-20-4. Grading and culverts
East of 24-23-15-4. Opening road.
Between 9/10-18-18-4. Fill across slough.
Between 14/15-23-29-4. Grading.
Calgary-Beaver Dam Trail. Grading and culverts.
South 1 and 2-26-1-5. Grading and side hill cut.
North of 33 to 35-26-2-5. Grading and culverts.
North of 25 to 30-70-11-6. Grading.
West of 26 to 35-70-8-6. Grading.
West of 23 to 35-70-12-6. Opening road.
Belvedere to Mellowdale. Dragging.
East of 2 and 11-60-3-5. Culverts and draining.
North of 35-60-3-5. Curduroy, culverts and fill.
Road to Holme's Crossing. Grubbing and clearing.
North of 15 to 17-61-3-5. Corduroy and grubbing.
South of 5-61-3-5. Grading.
Fort Assiniboine to Sturgeon Lake. Exploration work.
East 35-70-12-6. Dragging.
Between 36/25-70-12-6. Grading.
Secs. 21 and 22-62-6-5. Grading and culvert.
South of Castor. Grading.
North of Tp. 34, Rgs. 7 to 10-4. Grading and raising fill.
East of 6 and 7-35-8-4. Grading.
North of Secs. 8 to 10-36-8-4. Grading and raising fill
East of 15-36-8-4. Grading.
Road to Waterton Lakes. Grading.
Cardston to Hills Spring. Culverts and snow fencing.
Cardston-Glenwood road. New grade and culverts.
Blind line west of Crossfield. Grading and culverts.
Between 26/27-28-1-5. Culverts.
South of 25 to 27-28-29-4. Culverts.
Between 34/35 and 2/3-25/26-3-5. Grading and culverts.
Calgary-Beaver Dam Trail. Grading.
North of 23 and 24-28-4-5. Grading and culverts.
Morley Trail N.E. of Cochrane. Culverts and grading slough.
N. of 23 and 24-27-4-5. Culverts and grading slough.
West of 32-27-3-5. Grading and culverts.
Between 26/27-27-2-5. Grading, side hill cuts and culverts.
N. of Tp. 27-2-5. Filling, ditching and culverts.
West from 29-29-5-5. Grading.
North of 11 and 12-30-5-5. Grading and culverts.
East from Roundhill. Grading.
West of 22 to 34-42-16-4. Grading across slough.
Ohaton to Meeting Creek. Grading and subway.
S. 3, 4 and 5-42-17 and 18-4. Grading and culverts.
Between 21/22-44-18-4. Grading.
In N.E. 7-45-19-4. Grading.
North of 1, 5 and 6-43-19-4. Grading diversion.
N. of 32-43-21-4. Grading diversion.
North of 8 to 10-45-21-4. Grading diversion.
West of 1 to 36-48-21-4. Opening new road.
Between 1/2-48-18-4 and south. Grading.
In 2 and 3-49-20-4. Dragging.
Between 14/15-42-20-4. Opening up road.
South of 29-43-18-4. Opening up road.
Between 17/18-45-17-4. Opening up road.

East of 6 and 7-44-20-4. Opening up road.
North of 27-47-20-4. Grading.
North of 21-48-19-4. Opening up road.
Between 11/12-47-21-4. Opening up road.
North of 35-44-17-4. Brushing and grading.
North of 34-48-20-4. Grading.
North of 9-48-20-4. Dragging.
South of 1 and 2-47-17-4. Grading.
East of Tps. 47 and 48-17-4. Opening up road.
South of 6-48-21-4. Grading.
South of 1-46-20-4. Opening road.
North of 12-31-5-5. Grading and culverts.
North of 1 to 6-30-2-5. Opening road.
West of 3 to 10-32-5-5. Improvement of road and diversion.
North of 21 to 24-31-4-5. Improvement of road.
Between 9/10-30-2-5. Grading.
West of 10-31-5-5. Grading.
Through Tp. 52-21 to 24-4. Dragging.
East of 9, 16 and 21-52-22-4. Culverts and fills.
South of 2 and 3-51-21-4. Grading.
Rabbit Hill 51-25-4. Grading and side hill cut.
North of 12-53-21-4. Clearing diversion.
Between 11/12-53-17-5. Improvement of road.
Between 12/13-56-14-5. Improvement of road.
Edson to McLeod Valley. Grading, corduroy and ditching.
South of 6-54-17-5. Opening road.
Between 5/6-54-17-5. Opening road.
North from House River. Grading and clearing.
West of River, Rocky Mountain House. Clearing and culverts.
East of 9 to 28-53-13-5. Improvement of road.
East of 1 and 12-55-15-5. Opening up road.
East of 27 and 34-54-15-5. Opening up road.
South of 3 and 4-56-15-5. Grading.
In Tp. 56-15-5. Grading.
East of 22 and 34-55-14-5. Grading and corduroy.
In 2, 3, 4 and 8-55-14-5. Grading.
North of 21-53-13-5. Grading.
East of 17 and 20-53-13-5. Grading.
North of 8-53-13-5. Grading.
North of 28-53-13-5. Grading.
Peers to Wolf Creek. Grubbing and clearing.
Between 28/33-53-17-5. Opening road.
Between 7/12-53-17/18-5. Opening road.
North from Niton. Grading and corduroy.
N.E. of Edson. Improvement of road.
Through Tp. 80-35-4. Improvement of road.
East of 4 and 33-77/78-21-5. Improvement of road.
Wabasca to Lesser Slave Lake. Improvement of road.
From Sawridge east and Mirror Landing. Improvement of road.
Lesser Slave Lake to Spirit River. Grading and hill cutting.
Between Grouard and Peace River. Filling holes.
Between Sawridge and E. D. & B. C. Ry. Filling holes.
East of 5 to 29-78-21-5. Clearing and grubbing.
Between 20/29-78-21-5. Culvert.
North of 7 to 12-21/22-5. Culvert.
North of 8 t o12-24-22-4. Grading, culverts and ditching.
From Carseland to Ferry. Grading and culverts.
East and north of Hanna. Improvement of road.
East of 6-32-17-4. Grading.
Between 31/32-30-16-4. Grading.
Between 29/30-32-16-4. Grading slough.
West of 15, 22 and 27-31-14-4. Culverts.
Drumheller to Midland Mines. Improvement of road.
In 28-18-19-4. Culvert.
In 12, 13 and 14-29-20-4. Grading.
Between 1/2-28-12-4. Grading.
Between 11/14-30-13-4. Opening road.
East of 16 to 33-25-15-4. Opening road.
Between 19/20-30-11-4. Opening road.

Between 4/5-31-12-4. Opening road.
Between 33/34-29-12-4. Opening road.
Between 23/26 and 24/25-29-14-4. Opening road.
Between 20/21-30-11-4. Grading.
Between 4/9, 9/10, 15/16-27-11-4. Grading.
Between 17/18, 19/20-30-14-4. Grading.
South of 1-28-11-4. Grading.
Between 4/5-30-16-4. Grading.
S.E. 18-25-15-4. Grading.
Between 15/16-23-14-4. Grading.
Between 2/35-33/34-11-4. Grading.
Road between 15/22-17-28-4. Grading.
High River to Pekowki. Grading and culverts.
Through Tp. 18-2-5. Grading, culverts and fill.
Between 25/36-17-2-5. Grading and culverts.
South from Black Diamond. Lumber for culverts.
Innisfail to Clearwater River. Clearing and grading.
Innisfail to Perbeck and east. Grading.
Between 19/20-36-2-5. Grading.
West of 7-36-2-5. Grading.
Between 27/28-35-25-4. Grading.
East of 19, 30 and 31-37-6-5. Grading.
East of 25 to 11-35 and 36-3-5. Grading.
Between 27/28-35-23-4. Opening up road.
East of 1-35-22-4. Grading.
South of 6-35-22-4. Opening up road.
North of 19 to 24-12-21-4. Grading.
Between 16/17-21-24-4. Dragging.
North of 32 and 33-14-21-4. Grading.
West of 10, 11 and 12-18-23-4. Grading.
West of Tp. 17-20-4. Dragging.
Stavely east to Carmangay. Grading.
West of 19 to 24-14-24-4. Grading.
East of 6-14-20-4. Grading.
East of 8 to 32-14-23-4. Grading.
East of 4 to 32-16-22-4. Grading.
West of 1 to 36-15, 16, 17-20-4. Improvement of road.
From 4-60-9-5 to Tp. 59-10/9-5. Building new road.
East of 13 to 36-57-8-5 and north. Grading.
Rochfort to Entwistle. Clearing and grubbing
North of Sangudo Tp. 57-6/7-5. Opening road.
Between 31/32-56-5-5. Opening road.
Through Tps. 55 and 56-5-5. Grading and culverts.
Through Tp. 56-3-5. Grading.
North and south of Onoway. Grading.
Lac Ste. Anne to White Whale Lake. Grading.
Lac Ste. Anne to Pembina River at Entwistle. Grading and culverts.
Smith to Entwistle. Grading and culverts.
Between 34/35-54-7-5. Grading.
West of 3 to 34-53-8-5. Corduroy and ditching.
North of Junkins in 57-9-5, clearing and grading side hill.
Between 24/25-54-10-5. Covering corduroy.
West of 5 to 32-54-6-5. Dragging.
Tps. 54 and 55-11-5. Clearing and grubbing.
East and west of Saron. Grubbing and grading.
South of 7 to 12-48-26-4. Dragging.
South of 32 and 33-47-26-4. Grading.
East of Leduc. Grading.
West of Leduc. Grading.
Millet west to Bonnie Glen. Dragging.
West of 14 and 23-50-3-5. Grading.
South of 28 and 29-50-1-5. Opening road.
South of 32-48-27-4. Grading.
West of 36-48-26-4. Grading.
West of 15-49-25-4. Grading.
West of 5-48-24-4. Grading and culverts.
West of 15-50-23-4. Opening road.
West of 2 and 11-49-22-4. Opening road.
East of 31-49-22-4. Grading.

North of 7 to 12-49-1-5. Grading.
East of 3 to 24-48/49-26-4. Grading.
East of 33-47-24-4. Grading.
East of 24-48-24-4. Dragging and culverts.
North of 23-50-25/26-4. Grading.
South of 14-48-23-4. Grading.
West of 5 to 32-50-26-4. Dragging.
East of 20-50-26-4. Grading.
West of Tp. 49-27-4. Opening road.
West of Lacombe, grading and filling.
Tp. 41-27-4. Dragging.
North of 7 and 8-41-22-4. Raising grade to bridge.
Between 31/32-41-2-5. Grading.
East of 1 and 12-40-37-4. Grading over slough.
East of 35-40-28-4. Dragging.
North of 22-41-5-5. Opening road.
Between 31/32-41-4-5. Opening road.
Between 22/23-40-6-5. Opening road.
Between 23/24-40-6-5. Grading.
North of 7 to 12-6-6 to 9-4. Grading.
South of Etzikom. Raising grade and rock filling.
Medicine Hat to Josephburg. Culverts.
South of 3 to 5-10-2-4. Grading.
North of 8-10-2-4. Grading.
East of 16 to 33-10-2-4. Grading and culverts.
North of 9-1-10-4. Grading and culverts.
East of 23-1-10-4. Opening road.
West of 14-1-10-4. Opening road.
East of 19 and 30-1-10-4. Opening road.
Macleod to International Boundary. Grading, filling and culverts.
Macleod north. Grading and filling.
West of 6 and 7-6-26-4. Grading and filling holes.
West of 17 and 20-6-26-4. Grading.
Between 8/17-6-26-4. Opening road.
Macleod to Fishkara. Grading.
Sarcee Reserve. Repairing culverts.
North of 23-21-2-5. Grading.
North of 23-22-3-5. Grading.
North of 7 to 9-34-24-4. Grading and culverts.
North of 31-31-21-4. Grading.
East of 8-33-6-5. Grubbing and corduroy.
North of 19 to 24-33-26-4. Grading.
West of Bowden. Grading and filling.
East of 25-33-6-5. Grading, grubbing and culverts.
From Bowden west. Grading.
South of 14-32-2-5. Grading.
South of 3 and 4-33-7-5. Grading.
North of 19, 23 and 24-33-6/7-5. Grading.
South of 26 and 27-34-28-4. Grading.
North of 31 to 34-33-28 and 1-4 and 5. Grading and culverts.
Between 10/11-33-28-4. Grading.
N.E. 21-34-25-4. Grading and culverts.
From Trochu east. Grading, culverts and subway.
Pincher Creek to Oil fields. Grading, culverts and rock filling.
From Hobbema to Battle River. Grading, culverts and ditching.
Road west of Ponoka. Grading, filling sloughs.
East and west of Trustram. Raising grade over slough.
Between 11/14-44-3/4-5. Dragging.
Between 14/15-22/23-59-1-5. Grading and culverts.
Between 9/10-58-27-4. Grading.
North of 7 to 12-56-1, 2 and 3-5. Grading.
West of 20, 29 and 32-59-3-5. Grading and culverts.
Base Line east of Sion. Dragging.
North of 7 to 12-59-1-5. Dragging.
North of Onoway and south to G. T. P. Ry. Dragging.
North of 32 and 33-57-2-5. Grading and dragging.
East of 35-58-2-5. Dragging and culvert.
Legal to Busby. Grading and culverts.
East of 2, 11 and 14-56-2-5. Grading.

East of 5 and 8-60-2-5. Dragging.
South of 27 to 30-58-1 and 2-5. Grading.
East of 16 and 21, and 21, 28-57 and 58-5-5. Grading.
East of Lunnford. Grading.
Between 23/24-60-1-5. Grading.
North of 11 and 12-60-1-5. Opening road.
Through 10-60-1-5. Opening road.
From Barrhead to Compeer. Grading and culverts.
Between 13/14 and 23/24-59-4-5. Grading.
Road to Mellowdale and Belvedere. Grading and filling slough.
In 14 and 15-59-4-5. Grading and grubbing.
East of 2 to 14-59-1-5. Grading and grubbing.
North of 36-71-6-6. Grading and grubbing.
Brown's Landing to Peace River Crossing. Clearing and grading.
North of 1 to 3-72-7-6. Grading.
North of Tp. 83-25 and 26-5. Grading and clearing.
Shaftsbury Settlement along Peace River. Grading and clearing.
North of 34 to 36-71-4-6. Grading and culverts.
North of 34 to 35-72-4-6. Grading and culverts.
North of Tp. 73-7 and 8-6. Grading and culverts.
Grande Prairie west. Grading and culverts.
West of Tps. 71 and 72-6-6. Grading.
In 20 and 29-83-21-5. Grading and culverts.
Edson, north of House River. Grading, corduroy and culverts.
North of 9-71-10-6. Opening up road.
Between 4/5-78-3-6. Opening up road.
Lesser Slave to Spirit River. Grubbing, stumping and ditching.
North of 7 to 12-74-8 to 10-6. Opening up road.
Between 10/11 and 14/15-78-22-5. Opening up road.
Between 11/14 and 14/15-78-22-5. Opening up road.
Through Tps. 78 to 80-8-6. Opening up road.
From Redlove to Swan Lake. Opening up road.
Between 21/28-38-23-4. Grading and culverts.
North of 22 and 23-39-5 to 7-5. Grading and culverts.
North and south through Tps. 38 to 40-7-5. Grading.
Through 9, 10, 13 to 15-36-7-4. Grading.
East of 11 and 14-38-4-5. Grading.
North of 8 and 9-39-3-5. Grading corduroy.
North of 8-38-22-4. Opening road.
North of 7 to 12-39-4-5. Grading.
North and south of Leslieville. Corduroy and ditching.
Between 17/18-37-27-4. Opening up road.
Through centre of 12-23-5-5. Corduroy and culverts.
East of 4-42-10-4. Grading.
Through 34 and 35-42-10-4. Covering sand with gravel.
Between 5/6-39-6-4. Opening up road.
East of 11 to 26-15-10-4. Grading.
East of 14 to 26-16-10-4. Grading.
Suffield to Jenner Ferry. Grading and culverts.
East of 4-19-8-4. Dragging.
East from Atlee. Grading, filling and culverts.
East of 36-13-5-4. Grading.
West of 34-14-10-4. Opening up road.
West of 19-14-10-4. Opening up road.
Between 19/13-12-19-4. Opening up road.
West of 23 to 35-13-9-4. Opening up road.
Through 9-13-9-4. Opening up road.
Between 16/17-15-11-4. Opening up road.
Between 35/36-13-10-4. Opening up road
West of 34-15-10-4. Opening up road.
Between 34/35-15-10-4. Opening up road.
East of 5 to 32-13-10-4. Cutting hills and raising grade.
Between 7/8-15-10-4. Dragging.
East of 20 to 32-13-19-4. Dragging.
North of 21 to 23-13-10-4. Improvement of road.
West of Tp. 13-9-4. Grading.
East of 22 to 34-13-10-4. Dragging.
North of 10 to 12-13-10-4. Grading.
Between 28/29-15-10-4. Dragging.

Through Frog Lake, I.R. 56-2/3-4. Clearing and culverts.
Frog Lake to Lea Park. Grading and culverts.
Tp. 58-9 and 10-4. Grading.
Between 8/9 and 16/17-60-8-4. Covering corduroy and grubbing.
Between 17/18-56-8-4. Dragging.
West of Tp. 56-3-4. Grading.
North of 22 to 24-55-4-4. Grading and ditching.
Frog Lake to Cold Lake. Grading and corduroy
East of 4 to 21-57-4-4. Dragging.
North of 21-57-4-4. Opening up road.
East of 25-56-7-4. Grading.
In 5 and 6-57-6-4. Dragging.
South of St. Paul des Metis. Grading.
Moose Lake to Frog Lake. Clearing and grubbing.
Through Tps. 62 and 63-2 to 5-4. Grading and culverts.
From Onion Lake to Frog Lake. Grading and clearing rock.
Between 35/36-57-8-4. Opening up road.
Between Tps. 59/60-8-4. Grading.
Stettler to Drumheller. Grading, fills and culverts.
South of Castor. Grading.
Halkirk to Castor. Grading.
East of 2 and 26 and in 36-40-16-4. Grading.
East of 4-37-17-4. Opening up road.
West of 1 to 36-39 and 40-17-4. Opening up road.
East of 17 to 30-35-18-4. Raising grade, culverts.
South of Erskine. Raising grade, culverts.
In Sec. 21-12-6-4. Grading.
East of 4 to 32-37 and 38-18-4. Grading.
Stettler, Red Willow Road. Raising grade.
Stettler south. Grading.
Stettler, north. Grading.
Stettler to Buffalo Park. Grading.
Stettler, north and east. Grading.
Between 11/12-52-27-4. Clearing and covering corduroy.
North of Ferry in Tp. 51-3-5. Grading and grubbing.
South of Entwistle. Clearing and grading.
Stony Plain south. Clearing and culverts.
N. of 34-51-26-4. Grading.
Edmonton to Woodbend. Grading.
West of 3 to 10-52-3-5. Opening up road.
North of 7 to 12-40-11 and 12-4. Raising grade.
South of Killam. Grading.
North of Tp. 40-13 to 15-4. Grading.
East of 4-42-11-4. Dragging.
N.E. 23-41-11-4. Grading.
Between 20/21-44-11-4. Grading.
South of 13 and 14-48-11-4. Grading.
East of 5 to 17-44-12-4. Grading.
East of 25 and 36-47-12-4. Grading.
West of 2 to 14-47-11-4. Grading.
Between 30/31-43-11-4. Opening up road
Between 11/12-43-12-4. Opening up road.
Between 9/16-44-12-4. Grading.
East of Tp. 48-13-4. Grading.
N.E. of 17-45-13-4. Grading.
East of 13-40-13-4. Grading.
Between 15/16-48-11-4. Opening up road.
East of 2 to 23-43-15-4 Grading.
South of 2-43-15-4. Draining slough.
North of 10 and 11-48-15-4. Grading.
East of 24-57-24-4. Grading.
East of 22-65-21-4. Grading.
East and west of Collington. Clearing and grading.
North of Tp. 59-20 and 21-4. Grading and filling.
Between 20/29-23/26, Tp. 63-23-4. Grading.
North of 20 and 21-64-22-4. Grading and culverts.
East of 2 to 33-66-24-4. Cutting out road.
Between 3/4-57-21-4. Grading.
North of 7 to 12-59-17 and 18-4. Clearing brush and corduroy.

Between Victoria and Fort Saskatchewan. Raising grade and culverts.
Between Tps. 59/60-22 and 23-4. Grading and ditching.
North of 19-58-19-4. Grading.
North of 36-59-18-4. Opening up road.
East of 8 and 17-64-21-4. Grading.
North of 10-64-20-4. Grading across slough.
East of 4 and 9-62-24-4. Opening up road.
Between 31/32-60-23-4. Dragging.
Between 19/13-60-23-4. Opening up road.
East of 4 and 9 and west 27 and 34-60 and 61-19-4. Grading.
North of 21 and 22-61-22-4. Grading.
North of 34-58-23-4. Grading.
South of Abee Siding. Cutting hills and corduroy.
East of 6 and 7-62-24-4. Raising grade and ditching.
East of 3 to 15-61-24-4. Opening up road.
North of 2 to 4-62-24-4. Dragging.
East of 5 to 32-54-26-4. Grading.
St. Albert to Villeneuve. Dragging.
From St. Albert to along Long Lake. Grading.
East of 4 to 33-57-26-4. Grading.
Between 19/30-56-26-4. Grading.
Between 56/57-27-4. Dragging.
North of Tp. 54-26-4. Grading.
South of 2-56-25-4. Grading.
Between 10/15-57-27-4. Grading.
North of Riviere-Qui-Barre. Grading.
West of 1 to 36-56-25-4. Grading.
North of 19 to 24-55-26-4. Grading.
East of 13 to 36-54-26-4. Grading.
North of Tp. 53-1-5 and east to Railway. Grading.
East of 3 to 34-57-27-4. Grading.
North of 19 to 24-57-23 to 27-4. Clearing and stumping.
Between 25/26-55-26-4. Grading.
R.L. 64, Tp. 64-25-4. Opening up road.
Between 11/12-54-26-4. Dragging.
North of 10 to 24-58-24-4. Grading.
Between 17/18-58-24-4. Grading.
Between 28/29 and 31/32-57-27-4. Dragging.
East of 2 and N. 35-57 and 58-25-4. Grading.
Between 15/16 and 21/22-58-25-4. Grading.
North of Tp. 57-24 to 26-4. Grading.
Between 24/25-58-25-4. Grading.
West of 4 to 33-57 and 58-24-4. Grading.
Between 9/10-58-24-4. Grading.
East of 1 to 36-58-24 and 25-4. Grading and culverts.
North of 11 and 12-58-24-4. Grading.
Between 2/3-57-26-4. Grading.
East of 28 and 33-54-25-4. Grading.
East of S. 24, Tp. 57-24-4. Grading.
North of 36-54-25-4. Grading.
West of 6-57-27-4. Grading.
East of 24-57-26-4. Dragging.
South of 31-54-26-4. Opening up road.
North of 35 and 36-56-25-4. Building subway.
Taber to Retlaw. Grading and culverts.
North of Foremost. Dragging.
North of Coaldale. Grading, filling and culverts.
South of Bow Island, Tps. 6 to 10-11-4. Re-crowning grade.
North of 7 to 12-14-18-4 and west to Irrigation Canal. Grading.
South of Burdette. Grading.
West from Retlaw. Dragging.
East 19 to 31-14-16-4. Dragging.
Between 20/21-15-16-4. Opening up road
South of 5-15-19-4. Grading.
East of 5-15-19-4. Grading.
North of 31 to 34-14-16-4. Grading.
Between 17/18-15-18-4. Grading.
West of 11 to 14-15-20-4. Grading.
Between 11c12-15-20-4. Grading.

Between 16/17-15-20-4. Opening up road.
Between 9/10-15-20-4. Opening up road.
West of 27-16-18-4. Dragging.
South of 25 to 27-14-16-4. Re-crowning grade.
North of 11-9-11-4. Grading.
Between 12/13-55-7-4. Grading.
East of 2 to 35-54-9-4. Grading and culverts.
Vermilion to Ferry, St. Paul des Metis. Raising grade and repairing culvert.
East of 1 to 24-56-7-4. Grading.
South of Innisfree. Dragging.
In Tps. 51 to 54-10/11-4. Grading over sloughs and culverts.
South and west of Minburn. Grading and cutting hills.
Between 26/27-34/35-54-11-4. Grading.
South of Tp. 55-10 and 11-4. Grading and sloughs and cutting hills.
West of Tps. 48 and 49-10-4. Grading.
Between 12/13-55-7-4. Grading.
East of 25-48-10-4. Grading.
Road across Grizzly Bear Coulee. Raising grade.
South from Mannville. Grading.
Through Tp. 53 to 55-11-4. Grading.
South from Claymore. Grading.
South of 7-51-6-4. Opening up road.
South from Vermilion. Grading.
Between 10/15-52-10-4. Grading.
Between 17/18-52-10-4. Opening up road.
Between 2/3 and 34/35-53 and 54-10-4. Grading.
Between 13/14-52-13-4. Grading slough and culverts
Between 7/18-53-17-4. Grading.
Mundare to Pakan. Culverts.
Ryley to Holden. Grading.
Between 20/21-51-12-4. Grading.
West of Ranfurly. Grading.
West of Tps. 49 and 50-15-4. Grading.
North of Tp. 52-17-4. Improvement of road.
Between 25/26-49-13-4. Dragging.
Vegreville to Bruce and Strome. Building culverts and grading.
Vegreville to Desjarlais Crossing. Grading.
North of Lavoy. Grading.
Between 52/53-19 to 21-4. Grading.
Between 3/4, 9/15-52-12-4. Improvement of road.
South of Ranfurly. Ditching and grading.
South of 18-52-16-4. Grading.
East of 28 and 32-49-19-4. Opening road.
West of 9-51-13-4. Dragging.
West of 11-50-19-4. Grading.
Through centre of 14-49-16-4. Grading.
North of 7 to 12-50-19-4. Opening up road.
West of 12 and 13-50-14-4. Grading.
Between 23/26-56-20-4. Covering corduroy.
North and south of Andrew. Grading and filling.
East of 8 to 8, Tps. 55 and 56-20-4. Grading and covering corduroy.
Lamont to N.E. Tp. 56-16-4. Grading nad culverts.
North of 31 and 36-54-18-4. Grading.
Tps. 54-20/21-4. Cutting down hills and filling.
Between 7/8-54-22-4. Covering corduroy.
Between 12/13-55-20-4. Grading.
Between 7/8-58-15-4. Opening up road.
Along River at Fort Saskatchewan. Dragging.
North of 32-55-17-4. Improvement of road.
East of 36-56-16-4. Improvement of road.
Between 5/6-56-21-4. Grading.
Through 20 to 23-46-6-4. Improvement of road.
Between 23/24-41-2-4. Grading.
Between 2/3-41-2-4. Grading.
South 1 to 4-41-3-4. Grading.
Between 19/30-46-9-4. Opening up road.
Between 11/12-41-3-4. Opening up road.
Between 11/12-44-5-4. Opening up road.

North of Heath. Grading and filling.
Between 19/20-4-16-4. Improvement of road.
Across Verdigris Coulee, 4-16-4. Raising grade.
East of Warner. Grading.
West of Warner. Improvement of road.
West of 1 and 12-4-16-4. Opening up road.
West of Tp. 2-15-4. Improvement of road.
North of 7 to 12-2-15-4. Dragging.
N.W. 24-2-14-4, east 6 miles. Grading and culverts.
East of 8 to 29-2-13-4. Grading and culverts
North of 13 to 15-1-11-4. Opening up road.
North of 25 to 28-2-13-4. Grading.
North of 27 to 30-2-12-4. Grading.
West of 28-2-14-4. Grading.
West of 2-2-13-4. Opening up road.
West of 1 to 24-3-12-4. Grading.
West of 19 to 31-5-11-4. Grading.
North of Foremost. Grading and filling.
North of 22 and 23-3-12-4. Grading and filling.
West of 13 and 24-2-13-4. Grading and culverts.
North of 17-6-11-4. Opening up road.
South of 33-57-15-4. Clearing.
Through Tp. 58-13-4. Grading and clearing.
East and west through centre 33-59-16-4. Grading.
East of 3 to 34-58-15-4. Grading.
South of Shandro. Raising grade and ditching.
North of 19 to 24-59-13/14-4. Raising grade.
Pagan to Smoky Lake. Cutting and filling grade.
East of 2 to 23-59-15-4. Brushing and grading.
West of 18-59-17-4. Grading.
North of 31-56-15-4. Grading.
Between 31/32-54-14-4. Opening up road.
Through 1 to 13-57-14-4. Grading.
East of 5 to 20-59-13-4. Improvement of road.
Wetaskiwin west to Battle River. Dragging.
Between 17/18-47-23-4. Grading.
North of 11 to 13-46-4 to 6-4. Grading.
N.W. from Beaver Hills Lake. Dragging.
From Wetaskiwin to Grant's Bridge. Dragging.
In Tp. 45-23-4. Dragging.
Wetaskiwin to Coal Lake. Dragging.
Millet to Bonnie Glen. Dragging.
North of 19 to 24-46-25-4. Dragging.
South of 5-47-24-4. Brushing and ditching.
N.E. Tp. 45-22-4 and east two miles. Grading.
North of 33 to 36-45-23-4. Grading and grubbing.
East of 6 and 7-44-22-4. Grading.
N.W. 12-44-23-4 and east two miles. Grading.
E. 14 and 23-44-23-4. Grading.
North of 22 and 23-44-23-4. Grading.
Between 15/16-47-26-4. Grading.
Between 19/30-45-20-4. Grading and clearing.
Round north end of Peigan Lake. Grading.
South of 28 and 29-45-1-5. Clearing and grubbing.
South of 3-45-2-5. Ditching and grading.
East of 3 to 10-45-3-5. Dragging.
East of 4 and 9-47-3-5. Grading.
E. and N. of 2-47-11-5. Grading.
Between 33/36-46-3-5. Grading.
Between 3/4-47-23-4. Grading and cutting.
North of 7 to 10-47-25 to 27-4. Grubbing and clearing rock.
Between 9/10-46-1-5. Grading.
Pidgeon Lake Trail. Grading, brushing and culverts.

Work performed in 1919 by the Department in Administration of M.D. Trust Funds.

Between 27 and 28-24-9-4. Grading road.
Between 25/36-66-22-4. Improvement of road.

Athabasca-Lac La Biche Trail. Improvement of road.
West of 7-67-21-4. Improvement of road.
Sec. 19-68-21-4. Repairing road.
Athabasca to Sawridge. Grading and putting in culverts.
South of 1 and 2-68-23-4. Grading road.
West of 6 and 7-68-23-4. Grading road.
Fort McMurray to Lac La Biche. Grading approaches to Hanging Stone Bridge.
Fort Vermilion to Fort Smith. Improvement of portage around Vermilion Chutes.
East 33-61-9-4. Improvement of road.
North 8 and 9-67-12-4. Improvement of road.
Lac La Biche-Saddle Lake Trail. Improvement of road.
East 3 to 15-67-16-4. Improvement of road.
North 66-16-4. Grading road.
North 10-57-15-4. Grading road.
North 11 and 12-68-16-4. Grading road.
S.W. of Brooks to Ferry. Repairing road.
South of Cluny. Opening and grading road.
Through Tps. 20 and 21-19-4. Filling and grading.
West 3 and 10-19-20-4. Grading and putting in culverts.
North 4-20-19-4. Repairing road.
South 26-19-20-4. Grading road.
South 15-20-20-4. Grading and putting in culverts.
Between 9/10-18-18-4. Filling and grading.
South of Steveville Ferry. Grading and putting in culverts.
Between Brooks and Duchess. Grading and putting in culverts.
North of Duchess. Grading road.
West 3 to 22-20-14-4. Grading and putting in culverts.
Between Bassano, Rosemary and Duchess. Grading and putting in culverts.
Between 22/23-20-18-4. Grading and putting in culverts.
East 16 and 21-21-17-4. Grading and putting in culverts.
Sec. 1-21-18-4. Improvement of road.
East 18 and 19-20-18-4. Improvement of road.
Hill leading to Finnegan's Ferry. Grading hill.
North 23-23-15-4. Grading and putting in culverts.
South 2 to 4-24-19-4. Filling, grading and culverts.
Crowfoot north to Dead Horse Lake. Filling, grading and culverts.
South 2 t o4-24-19-4. Filling, grading and culverts.
North 10 and 11-24-20-4. Grading and culverts.
North 8-24-21-4. Putting in culverts.
East 8 to 20-24-21-4. Grading and culverts.
North from Cluny. Repairing road.
North 9 and 10-23-21-4. Filling, grading and culverts.
South of Beynon. Grading, cutting down hills and culverts.
Wayne, south to Hussar. Grading, cutting down hills and culverts.
East 10-27-20-4. Grading road.
South 15-27-20-4. Grading road.
North 1-20-4. Grading and culverts.
In Tp. 2-24-4. Grading road
South of Magrath. Grading and culverts.
East 4 to 33-3-24-4. Improvement of road.
North 19 to 24-1-24-4. Improvement of road.
Between Tp. 2-23/24-4. Grading and culverts.
North 22 to 24-2-24-4. Grading and culverts.
North 12 to 18-1-23-4. Grading road.
North 34 to 36-2-24-4. Grading road.
West 22-2-24-4. Improvement of road.
Between 30/31-3-24-4. Repairing road.
Woolford to Taylorville. Repairing road.
Cardston to Kimball. Filling and grading road.
Sec. 25-2-23-4. Improvement of road.
Lees' Creek to Leavitt and Timber. Grading side hills and culverts.
Cardston to Boundary Creek. Grading and culverts.
Cardston to Mountain View. Improvement of road.
Twin Lake to St. Mary's River. Grading and culverts.
East 3 and 10-2-25-4. Grading and culverts.

West 18 to 31-1-25-4. Grading and filling road.
West 28 and 33-5-21-4. Repairing road.
North 33 to 36-5-20-4. Grading, filling and culverts.
West 9 to 28-5-20-4. Repairing road.
West 32-4-20-4. Grading road.
West 25 and 36-5-20-4. Repairing road.
North 21-5-19-4. Grading road.
West 14-5-19-4. Improvement of road.
West 5 to 32-5-21-4. Grading and filling road.
South to Magrath. Grading, filling and culverts.
West 9 to 28-4-23-4. Grading road.
North Tp. 3-24-4. Grading, filling and culverts.
West 4-4-24-4. Grading and filling road.
South 4 and 5-4-24-4. Grading, filling and culverts.
In 2-12-29-4. Repairing road.
Between 10/11-12-28-4. Opening and grading road.
Macleod to Porcupine Hills. Grading and filling road.
Macleod-Lyndon Meadow Creek Trail. Repairing road.
Macleod-Lyndon Trail. Grading road.
Maycroft to Forest Reserve. Grading road.
On 6, 8 and 9-10-2-5. Side hill grade and culverts.
Stavely-Willows Trail. Repairing road.
Secs. 21 and 22-62-6-5. Grading road.
North 10 and 11-60-3-5. Opening and grading road.
North 19 to 24-60-2-5. Opening and grading road.
East 26 and 35-60-3-5. Grading road.
Between 22/27-60-3-5. Laying corduroy.
Fort Assiniboine to Freeman River. Improvement of road.
Between 28/29-70-12-6 Opening and grading road.
South of Cochrane. Grading and culverts.
Between 12/13-28-5-5. Cutting and clearing brush.
North 9 and 10-25-5-5. Improvement of road.
East 3 to 34-26-4-5. Repairing grades.
From Cochrane to Horse Creek. Grading, filling and culverts.
East 22, 27 and 34-26-4-5. Grading, filling and culverts.
North 34-26-4-5. Grading road.
Grand Valley Road, Tps. 26/27-5-5. Grading, filling and culverts.
South 3 to 6-28-4-4. Improvement of road.
Silver Creek Trail, Tp. 29-5/6-5. Constructing road.
In 35 and 36-29-5-5. Constructing road.
Between 15/16-34-2-4. Opening and grading road.
Sec. 22-33-3-4. Opening and grading road.
North and south of Bideford. Grading, filling and culverts.
North 19, 20 and 31-34-1-4. Improvement of road.
North 14-34-3-4. Improvement of road.
Main Highway leading to Compeer. Grading road.
N.E. of Consort. Grading, filling and culverts.
West 6 and 7-35-4-4. Opening and grading road.
Main Highway through Tp. 35-4-4. Grading and filling road.
East 16 and 21-35-8-4. Improvement of road.
North of Veteran. Grading, filling and culverts.
North of Loyalist. Grading, filling and culverts.
N.E. 15-35-8-4. Opening and grading road.
East 5 and 8-35-8-4. Grading and culverts.
Main Highway leading to Veteran. Putting in culverts.
North of Tp. 26-2-5. Grading and filling road.
Nose Creek Trail. Grading, filling and culverts.
Between 10/11-31-5-5. Improvement of road.
West 30 and N. 35 and 36-31-5-5. Repairing grade and ditching.
Sec. 30-39-8-5. Opening and grading road.
Sec. 21-39-8-5. Opening and grading road.
Between 22/23-53-14-5. Opening and grading road.
West 21 and 28-54-15-5. Grading road.
North 8 and 9-53-19-5. Grading road.
East 13 and 24-56-14-5. Grading road.
North 33-56-16-5. Grading road.
North of Gleichen. Grading and culverts.
West 18-24-22-4. Grading road.

Between 10/11-23-23-4. Grading road.
North 22 to 24-22-22-4. Improvement of road.
North 7 to 12-23-22-4. Improvement of road.
Main Highway N. 12-22-22-4. Improvement of road.
Between 32/33-22-22-4. Improvement of road.
East 22, 27 and 34-23-22-4. Opening and grading road.
Between 20/21-23-22-4. Grading road.
Between Mirror and Cote's Landing. Grading road.
East of Sawridge, north of river. Grading road.
East and south of Swan River Bridge. Grading approaches to bridge and improvement of road.
Sec. 15-73-10-5. Improvement of road.
Between Grouard and Enilda. Grading and filling road.
Grouard to Whitefish Lake. Grading and filling road.
Grouard to Big Prairie. Grading, filling and culverts.
High Prairie to Big Prairie. Improvement of road
High Prairie to West Prairie. Grading road.
North 22-77-19-5. Grading road.
East 6 and 7-78-21-5. Grading road.
Between 10/11-78-21-5. Grading road.
Between 16/17-78-21-5. Grading road.
Between 15/16-78-21-5. Repairing road.
East 12-78-21-5. Improvement of road.
North 21-78-21-5. Improvement of road.
From Clark Hill across Willow Creek. Grading and filling road.
Between 35/36-27-18-4. Opening up road.
West 13-28-17-4. Repairing road.
Between 14/15-28-19-4. Repairing road.
Pekisko Trail in Rgs. 2 and 3-5. Grading, filling and culverts.
North 23/24-54-10-5. Clearing road and covering corduroy.
Leaman north. Grading road.
Whitefish south. Repairing road.
Whitefish west. Repairing road.
Rochfort west. Grading road.
Whitecourt east. Repairing road.
West 13 to 25-49-6-5. Grading road.
North Tp. 48-4-5. Grading road.
North Tp. 45-4-5. Repairing road.
North 8-8-21-4. Grading road.
West 17 and 20-7-21-4. Repairing road.
East 4 to 33-8-21-4. Grading road.
North 7 to 9-9-21-4. Grading road.
West 31-10-21-4. Grading road.
West 3 to 34-10-22-4. Grading road.
North 34-9-22-4. Graidng road.
North 4 miles from S.E. corner 30-9-22-4. Grading and filling road.
North 5 miles from S.E. corner 29-9-22-4. Grading and filling road.
South 30-9-22-4. Opening and grading road.
North of 10 and 11-13-21-4. Grading and culverts.
East 4 to 33-13-21-4 and E. 21-11-21-4. Grading and culverts.
South 3-13-21-4. Grading and culverts.
North 19 to 23-12-21-4. Grading and culverts.
Between 29/30-12-21-4. Improvement of road.
Between 8/17-12-21-4. Improvement of road.
Between 35/36-11-21-4. Grading and culverts.
East 2 to 35-17-20-4. Grading, filling and culverts.
Macleod to Lethbridge. Grading and culverts.
West 32-9-23-4. Improvement of road.
East 35-3-5-4. Opening road, grading and culverts.
On 33-3-5-4. Grading and culverts.
North 10 to 12-1-2-4. Opening and grading road.
East 9-1-2-4. Opening and grading road.
East 3 and 10-1-2-4. Grading sloughs.
South 2 to 6-4-5-4. Opening road, grading and culverts.
Manyberries south. Grading and culverts.
East Tp. 5-7-4. Grading and culverts.
East 15 and 22-2-6-4. Grading culverts.
North 22-2-6-4. Grading road.
North 34-1-4-4. Grading road.

East 26-2-5-4. Grading road.
East 4 to 33-3-7-4. Grading and culverts.
North 20, 21 and 22-5-7-4. Grading and culverts.
East 24 and 25-3-8-4. Grading road.
East Tp. 5-8-4. Grading road.
East 25 and 33-3-8-4. Grading and culverts.
East 23-3-8-4. Grading road.
East 11-3-7-4. Grading road.
North 8, 9 and 10-3-9-4. Grading road.
East 28 and 33-3-9-4. Grading road.
East 31-3-9-4. Grading road.
East 13 and 24-3-11-4. Grading road.
North 7 to 10-3-10-4. Grading road.
East 15 to 34-3-10-4. Grading road.
East 7 to 30-1-10-4. Opening road, grading and culverts.
North 9 to 11-1-10-4. Grading and culverts.
East 30 and 31-3-10-4. Improvement of road.
From Battle Creek to Cypress Hills. Grading, filling and culverts.
Minda to Cypres Hills. Grading, filling and culverts.
North 35-6-2-4. Improvement of road.
East 26 and 35-5-6-4. Grading and culverts.
North 34-3-5-4. Grading and culverts.
East 4 to 21-4-5-4. Grading and culverts.
Manyberries south. Grading and culverts.
North 19 and 20-6-6-4. Grading and culverts.
Orion south 6 miles. Grading, filling and culverts.
North 8-6-5-4. Grading and culverts.
East 6-6-5-4. Grading and culverts.
North 31-5-5-4. Grading of road.
East 5-4-5-4. Grading of road.
East 16 and 21-9-1-4. Grading road.
West 18-9-3-4. Grading and culverts.
West 9 and 10-7-1-4. Grading road.
From North Tp. 9 to Cypress Hills. Grading and culverts.
East 17 and 20-7-2-4. Improvement of road.
North 22-10-2-4. Improvement of road.
Between 8/17-9-2-4. Improvement of road.
Between 16/17-8-3-4. Improvement of road.
Between 1/2-8-3-4. Improvement of road.
Medicine Hat to Manyberries. Grading road.
North 19 and 20-6-6-4. Grading road.
West ½ 1-8-4-4. Grading road.
From N.E. 16-9-4-4 to Eagle Butte Trail. Grading and culverts.
North 12-9-4-4. Grading road.
East 34-9-4-4. Grading road.
North 36-8-6-4. Grading road.
East 32-9-4-4. Grading and culverts.
East 14-9-5-4. Grading and culverts.
North 12-9-5-4. Grading, culverts.
North 11 and 12-9-7-4. Grading, culverts.
East 13-9-5-4. Improvement of road.
North 36-6-9-4. Improvement of road.
North 31-7-6-4. Improvement of road.
Pakowki to Seven Persons. Grading, filling and culverts.
Seven Persons to Orion. Grading, filling and culverts.
North 33-7-7-4. Grading road.
East 12-7-9-4. Grading road.
Between 21/28-8-9-4. Grading road.
Between 9/10-8-9-4. Grading road.
East 12 and 13-9-10-4. Grading and culverts.
East 18-9-9-4. Grading road.
Between 7/18-8-8-4. Grading road.
North 22-11-3-4. Repairing road.
North 35-9-3-4. Grading and culverts.
East 12-10-3-4. Grading and culverts.
East 13-12-2-4. Grading and culverts.
North 12-12-2-4. Grading, filling and culverts.
East 3 and 10-12-2-4. Improvement of road.
East 31 and north 33 and 36-11-2-4. Improvement of road.

North 31-10-3-4. Grading and culverts.
South of Irvine. Grading and culverts.
West 18-10-3-4. Improvement of road.
Main Highway between Irvine and Walsh. Grading road.
North of Irvine. Grading, filling and culverts.
East 36-12-4-4. Grading, filling and culverts.
North 19 to 21-11-3-4. Grading, filling and culverts.
East 17 and 20-11-3-4. Improvement of road.
East 22-11-3-4. Grading and culverts.
North 33, 34 and 35-11-8-4. Grading road.
North of Whitla. Grading, filling and culverts.
Pakowki to Seven Persons. Grading, filling and culverts.
North 35 and 36-10-7-4. Grading and culverts.
East 25-11-9-4. Grading and culverts.
North of 19-11-8-4. Grading road.
North of 10 and 11-12-7-4. Grading road.
East 16 and 21-10-7-4. Grading and culverts.
East 10-12-7-4. Opening and grading road.
East 9-12-7-4. Improvement of road.
East of Winnifred. Grading road.
East 1 to 25-10-10-4. Grading and culverts.
East 6-10-8-4. Improvement of road.
North 23-10-9-4. Grading road.
Between 2/3-10-7-4. Grading road.
S.W. from 10-16-29-4. Improvement of road.
Staveley-Willows Trail. Grading and culverts.
North 31-71-3-6. Grading road.
East from Bezanson Ferry. Grading road.
Beaver Lodge River to Bear Creek. Grading and filling road.
Between 8/9-71-10-6. Opening road, grading and culverts.
North 7 to 12-71-11-6. Grading road.
Sexsmith to Valhalla. Grading road.
Beaver Lodge to Swan Lake. Grading and culverts.
Lake Saskatoon to Beaver Lodge River. Grading and culverts.
West 8 miles from N.E. 7-74-8-6. Grading road.
On N.W. ¼ 20-72-10-6. Grading road.
Grande Prairie-Pouce Coupe Trail. Grading road.
Between 14/15-78-22-5. Grading road.
Between 4/5-78-3-6. Grading road.
East 4 and 9-84-22-5. Grading road.
North 35-83-26-5. Grading road.
Through 17 and 18-60-1-5. Grading road.
North 23 and 24-60-2-5. Grading road.
South 13-60-1-5. Grading road.
North 23 and 24-60-1-5. Grading road.
West 13 and 24-60-1-5. Grading road.
Between 31/32-61-1-5. Opening road.
Through Tp. 61-1 and 2-5. Clearing and grading road.
East 14 to 26-63-25-4. Grading road.
Through 16-64-1-5. Improvement of road.
Through Tp. 70-26-4. Improvement of road.
Between 15 and 22-42-5-5. Grading road.
North 8 and 9-43-4-5. Grading road.
Between Medicine Hat and Waddington. Grading, filling and culverts.
Between Irvine and Schuler. Grading, filling and culverts.
North 31-14-3-4. Improvement of road.
Sec. 16-14-3-4. Grading and culverts.
Sec. 8-13-3-4. Improvement of road.
S. 1, 2 and 3-14-4-4, and through Tp. 14-3-4-6 six miles. Grading, culverts.
Through centre 9, 10, 11-14-3-4. Grading road.
South 2½ miles from N.E. corner 23-14-3-4. Grading road.
North 19-14-2-4 and N. 24-14-3-4. Grading road.
East 16 miles from S.E. corner 5-13-4-4. Grading road.
S.W. ¼ 19 and 30-13-6-4. Grading and culverts.
Medicine Hat to Red Deer River. Grading and culverts.
North of Redcliff. Grading roads.
East 4 to 21-14-6-4. Grading and culverts.
W. 12 miles from N. 24-13-7-4. Grading, filling and culverts.

East 20-13-7-4. Improvement of road.
East 28-13-7-4. Improvement of road.
East 19-13-8-4. Improvement of road.
East 25 and 36-13-8-4. Grading road.
Sec. 5-13-7-4. Improvement of road.
North 33 to 35-13-8-4. Improvement of road.
East 34-13-7-4 and E. 3-14-7-4. Improvement of road.
East 24-14-7-4. Improvement of road.
East 11-14-7-4. Improvement of road.
East 29 and 32-14-7-4. Improvement of road.
North 1 to 4-14-7-4. Opening and grading road.
West 18-14-5-4. Repairing road.
Between 14/15-14-6-4. Repairing road.
North 31-15-8-4. Opening and grading road.
Sec. 33-12-12-4. Opening and grading road.
South of Hilda between Rgs. 1 and 2. Grading, filling and culverts.
Tp. line east of Roseglen. Grading, filling and culverts.
From N.E. 33-14-3-4 to N.E. Tp. 15-3-4. Grading, filling and culverts.
North 9, 10 and 11-13-8-4. Improvement of road.
South 4 miles from N.E. corner 7-15-2-4. Grading road.
North 8-15-2-4. Grading road.
North 10 to 12-16-4-4. Grading road.
North 33 and 34-15-1-4. Grading road.
East 18 and 19-15-1-4. Improvement of road.
North 7 and 8-16-1-4. Grading road.
North 4-18-7-4. Grading road.
North 14 to 18-17-7-4. Grading road.
North 19 to 22-18-7-4. Opening and grading road.
North 9 and 10-18-7-4. Opening and grading road.
East 15 and 22-18-7-4. Opening and grading road.
East 16 and 21-17-7-4. Opening and grading road.
Surveyed Trail in Tp. 16-6-4. Repairing road.
North Tp. 17-7-4. Grading, filling and culverts.
North and south of Hilda, Tps. 17/18-1/2-4. Grading and filling road.
East 16 and 21-17-2-4 and East 4 and 9-18-2-4. Grading and filling road.
North of Tp. 17-2-4. Grading and culverts.
East 27 and 34-18-1-4. Grading and culverts.
From N.E. 14-9-1-4 to S.E. 35-20-1-4. Grading and filling road.
East 4 to 33-18-1-4. Grading, filling and culverts.
North 35-18-1-4. Grading road.
East 14 and 23-18-2-4. Grading road.
North 19 to 24-17-1-4. Grading and culverts.
East 20 and 29-17-1-4. Grading and culverts.
North 35-16-2-4. Grading road.
North 7 to 9-18-2-4. Grading road.
East 3 to 34-21-4-4. Grading road.
West from 27-21-5-4. Grading, filling and culverts.
On 6 and west 7-22-7-4. Opening and grading road.
East 11, 23, 26 and 33-21-4-4. Grading road.
South 4 miles from N. E. corner 9-20-10-4. Grading road.
East 3-10-21-4. Grading road.
North 28-20-10-4. Grading road.
East 26-20-9-4. Grading road.
East 20 and 29-19-9-4. Grading road.
East 34-21-8-4. Grading road.
East 3-20-8-4. Grading road.
East 32-19-9-4. Grading road.
East 31-21-1-4. Grading road.
East 2, 11 and 14-21-2-4. Grading and culverts.
North 31 and 32-20-1-4 and N 36-20-2-4. Grading road.
East 12 and 13-23-1-4. Grading road.
East 15-21-2-4. Grading and culverts.
North 11 miles from N.E. corner 18-20-2-4. Grading, culverts.
Bindloss to Empress. Grading road.
East 8-38-4-4. Grading road.
In 8 and 17-37-6-4. Grading and culverts.
West 1 and 12-38-7-4. Grading road.
West 4 and 9-37-7-4. Grading and culverts.
North 35 and 36-37-7-4. Improvement of road.

Main Highway in Tp. 7-3-5. Grading and filling road.
Centre 12-23-5-5 and west 34-22-5-5. Grading and filling road.
North 31-56-3-4. Repairing road.
Onion Lake to Frog Lake in Tp. 55-2-4. Grading road.
East 33-55-3-4. Improvement of road.
West 7 and 18-56-3-4. Improvement of road.
Between 26 and 27-62-5-4. Improvement of road.
Between 5/6-62-4-4. Improvement of road.
East 4 and 9-61-19-4. Grading road.
South of and east Dowling Siding. Grading road.
Between 21/28-6-22-4. Grading and culverts.
North 9 to 12-6-21-4 and W. 4 and 9-6-21-4. Grading and culverts.
West 13 to 25-6-21-4. Grading and culverts.
West 22-6-19-4. Grading road.
West 22-6-19-4. Grading road.
South 1 and 2-6-19-4. Grading road.
North 7 and 8-6-19-4 and N. 9 to 12-6-20-4. Grading and filling road.
West 5, 8 and 17-6-21-4. Grading and culverts.
West 15 and 22-6-20-4. Improvement of road.
West 16 and 21-6-21-4. Grading and culverts.
West 28 and 33-6-20-4. Grading and culverts.
North 9 and 10-6-22-4. Grading road.
North 20 and 21-6-22-4. Grading road.
West 21-6-22-4. Grading road.
Between 8/9-9-16-4. Grading and filling road.
From S.E. corner 1-7-18-4, west to Stirling. Grading, filling and culverts.
From S.E. corner 30-9-16-4 to Chin Coulee. Grading, filling and culverts.
West from Stirling 13 miles. Grading, filling and culverts.
South 4 and 5-9-16-4. Grading and culverts.
South of Barnwell through Tps. 8 and 9-17-4. Grading, levelling and culverts.
North 8-8-16-4. Grading road.
North 21 and 22-8-17-4. Grading road.
West 34-9-16-4. Grading road.
West 26-9-18-4. Grading road.
West 7-10-16-4. Grading and culverts.
North of Chin 4 miles. Grading road.
East 22-9-16-4. Grading road.
West 24-10-16-4. Grading and culverts.
North 24-10-16-4. Grading and culverts.
South from Wetmore. Grading, filling and culverts.
Sec. 6-10-17-4. Improvement of road.
In 6 and 7-9-18-4. Improvement of road.
West 36-7-18-4. Improvement of road.
Lethbridge to Bow Island. Improvement of road.
West of Coaldale 7 miles. Grading and culverts.
East 26 and 35-8-21-4. Improvement of road.
From S.E. corner 27-9-21-4 and east 11 miles. Grading and culverts.
From S.E. corner 3-9-21-4 and north 5 miles. Grading road.
North 19 and 20-7-20-4. Grading and culverts.
East 4 to 28-8-21-4 and E. 16 to 33-9-21-4. Grading road.
Coaldale north. Grading and culverts.
West 4 to 21-7-17-4. Grading sloughs.
West 29-7-20-4. Grading road.
West 30-7-20-4. Grading road.
West 36-8-20-4 and W. 1 and 12-9-20-4. Grading road.
West 35-8-20-4. Grading road.
West 9-9-19-4. Grading road.
West 34-8-20-4. Grading road.
6 miles west from N.E. corner 34-8-19-4. Grading road.
West Tps. 9 and 9-19-4. Grading road.
West 1 and 12-9-21-4. Grading and culverts.
West 27 and 34-7-21-4. Grading road.
West 3 and 10-9-20-4. Grading and culverts.
West 1 and 12-7-21-4. Grading and culverts.
South 2-11-21-4. Grading road.
North of Coaldale. Grading and filling road.

South 5-11-19-4. Grading road.
West 3 to 22-11-20-4. Grading road.
West 10-11-19-4. Grading road.
North Tp. 12-19-4. Grading and filling road.
West 5 to 32-13-19-4. Grading and filling road.
East 2 to 35-12 and 13-19-4. Grading and culverts.
South 18-12-15-4. Grading road.
North Tps. 13-16/17-4. Grading, filling and culverts.
North Tp. 14-16-4. Grading, cutting down hills and culverts.
East 34-14-16-4. Grading and culverts.
East 4 to 33-14-16-4 and east 3 to 22-15-16-4. Grading, filling and culverts.
North 12 miles from S.W. corner 3-15-18-4. Grading and filling road.
East 1 to 36-14-19-4. Grading road.
East 3-14-18-4. Grading road.
West 1 and 12-14-18-4. Grading road.
South 3 to 6-14-16-4. Grading road.
North 19-16-17-4. Grading and culverts.
North 10 to 12-14-18-4. Repairing road.
East 18 to 30-15-16-4. Grading road.
Between 8/9-14-16-4. Grading road.
West 17 and 32-17-18-4. Grading and culverts.
East 4 to 28-17-18-4. Grading and filling.
North 7 to 12-17-18-4 and N. 7, 8 and 9-17-17-4. Grading, filling and culverts.
North Tp. 16-18-4. Grading, filling and culverts.
East to 32-17-18-4. Grading and filling road.
North Tp. 16-17-4. Grading and filling road.
West 30-17-18-4. Grading and culverts.
North 19 to 21-17-18-4. Grading road.
North 31 and 32-17-18-4. Grading road.
East from S.W. corner of 7-1-12-4. Grading and filling road.
In 34-1-12-4. Grading and culverts.
North 11 and 12-3-11-4. Grading road.
East to 6 to 19-3-12-4. Opening and grading road.
North 23 and 24-3-11-4. Repairing road.
East 15 to 27-3-11-4. Grading road.
West 31-2-12-4. Opening and grading road.
North 31 to 35-2-12-4. Grading road.
West 35-2-12-4. Grading road.
Between 34/35-2-14-4. Grading road.
East of Coutts. Grading, filling and culverts.
West 28 and 33-3-15-4. Grading road.
West 17 and 20-2-15-4. Grading road.
North 31 and 32-2-15-4. Grading road.
West 28 and 33-2-15-4. Grading road.
Through 18-1-15-4. Grading road.
North 19 to 22-2-15-4. Grading and filling road.
West 18, 19 and 30-1-14-4. Grading road.
West 4 and 9-1-14-4. Grading road.
North Tp. 1-14-4. Grading and filling road.
East 9 miles from N.E. corner 9-1-15-4. Grading and filling road.
East 4 to 9-1-13-4. Grading road.
Milk River to Coutts. Grading and culverts.
North 10 and 11-3-16-4. Grading road.
East 28 and 33-2-16-4. Grading road.
From N.W. corner 35-3-17-4, east 9 miles. Grading road.
East 13-1-17-4. Grading road.
West 14 and 23-1-17-4. Grading road.
West 16-1-17-4. Improvement of road.
West 2 and 11-2-16-4. Improvement of road.
West 3 to 22-1-17-4. Improvement of road.
West 20-1-17-4. Improvement of road.
East of Milk River. Grading and culverts.
West 20-1-17-4. Grading road.
North 8 to 10-1-16-4. Grading road.
West 23-3-17-4. Grading road.
North 10 and 11-1-17-4. Improvement of road.
S. 2 to 6-4-15-4. Grading and filling road.

North 31 and 32-4-15-4. Repairing road.
North 19 to 24-4-15-4. Grading, filling and culverts.
Through 2 and 11-5-14-4. Grading and filling road.
North 22 to 24-6-14-4 and N. 19 to 24-6-13-4. Opening road and culverts.
East 3 to 34-5-13-4 and East 3 to 22-6-13-4. Opening road and culverts.
East 3 to 34-5 and 6-14-4. Opening road, grading and filling.
West 22-6-14-4. Grading road.
North 7 and 8-46-3-5. Grading road.

FERRIES, 1919.

The total number of Ferries operated by this Department in 1919 was seventy-five.

There were a few ferries located at points where traffic was so light that it did not warrant the employment of an operator, etc.

These were as follows:

Over Oldman River north of Purple Springs.
Over Athabasca River on Edson-Grande Prairie Trail.
Over Baptiste River on Edson-Grande Prairie Trail.
Over Little Smoky River on Edson-Grande Prairie Trail.
Over Oldman River north of Grassy Lake.
Note: New scow built but not operated in 1919.

making seventy-seven Government owned ferries in the province.

New ferries were built and installed on the following locations:

Over Athabasca River north of Greencourt.

New ferries were built and installed on the following location:

Over Pembina River at Pembina.
Over Pembina River at Wild Horse.
Over North Saskatchewan north of Lamont.
Over Pembina River at Sunnybend.
Over Bow River south of Bassano.
Over Red Deer River at Finnegan's Crossing.
Over Bow River at Eyremore.
Over Oldman River north of Grassy Lake (not operated 1919).
Over Peace River at Dunvegan.
Over Red Deer River at Iddesleigh.
Oover North Saskatchewan River at Forbesville.
Over Macleod River at Whitecourt.

Complete list of ferries operating:

Red Deer River at Prince's Ranch.
North Saskatchewan River at St. Paul.
North Saskatchewan River east of Whitford.
Athabasca River at Holme's Crossing.
Bow River south of Cluny.
Red Deer River at Dorothy.
North Saskatchewan at Victoria.
Athabasca River at Athabasca.
Tolman Ferry over Red Deer River.
Pembina River at Pembina.
North Saskatchewan River at Shandro.
Pembina River at Wild Horse.
North Saskatchewan at Hopkin's Crossing.
Red Deer River at Fieldholm.
North Saskatchewan at Rocky Mountain House.
Peace River at Peace River Crossing.
Lac Ste. Anne at the Narrows.
North Saskatchewan River north of Kitscoty.
North Saskatchewan River north of Lamont.

Pembina River at Sunnybend.
Pembina River at Wright's Crossing.
Saskatchewan River at Lamora Crossing.
Bow River south of Strathmore.
Peace River at Dunvegan.
South Saskatchewan at Bow Island.
North Saskatchewan north of Mannville.
North Saskatchewan at Fraser Landing.
Pembina River at Entwistle.
Red Deer River at Steveville.
Bow River at Riverbow.
Beaver River at Cold Lake Crossing.
Oldman River north of Purple Springs.
Bow River at Rocky Buttes.
Red Deer River west of Munson.
North Saskatchewan south of Tomahawk.
Red Deer River at Finnegan's Crossing.
Pembina River at Matthew's Crossing.
North Saskatchewan at Mooswa.
Pembina River at Lunnford.
Athabasca River on Edson-Grande Prairie Trail.
Baptiste River on Edson-Grande Prairie Trail.
Oldman River north of Grassy Lake.
Little Smoky River on Edson-Grande Prairie Trail.
Bow River at Eyremore.
Macleod River north of Thornton.
Macleod River at Whitecourt.
South Saskatchewan west of Iddesleigh.
Bow River at Amethyst.
Beaver River at Durlingville.
North Saskatchewan north of Bruderheim.
Pembina River at Manola.
Macleod River north of Peers.
Red Deer River north of Jenner.
Red Deer River at Gregory's Ford.
North Saskatchewan at Elk Point.
Pembina River north of Sangudo.
Red Deer River west of Morrin.
Pembina River west of Eunice.
Athabasca River at Mirror Landing.
Athabasca River north of Greencourt.
Macleod River at Mahaska.
Red Deer River at North Pancras.
Red Deer River north of Atlee.
North Saskatchewan River at Forbesville.
South Saskatchewan River at 4th Meridian.
Macleod River north of Rosevear.
Athabasca River at Hinton.
Big Smoky River near the mouth of Wapiti River.
Red Deer River north of Buffalo.
Peace River at Fort Vermilion (two ferries).
Saskatchewan River at Heinsburg.
Red Deer River below Rosedale.
Red Deer River at Niddrie's Crossing.
Bow River south-east of Riverbow.

SURVEYS BRANCH

EDMONTON, January 19, 1920.

THE DEPUTY MINISTER,
Department of Public Works,
Edmonton, Alberta.

SIR,—I have the honour to submit the following report in connection with work in the Surveys Branch for the year 1919.

In consequence of the continued demand for urgent surveys from the various Municipal Districts, it was necessary to retain a similar force in the field as during the year 1918. In addition thereto, it was found advisable to engage an additional Surveyor for the last two months of the year in completing surveys of main highways.

Owing to the heavy snow storms and especially cold weather which set in in the latter part of October, the field season was restricted, which has reflected somewhat on the amount of work done in the field. There is still a heavy list of outstanding requests to be carried forward to the 1920 schedule. With practically few exceptions, the Municipal authorities have fallen into line with the new arrangements put into force this year, as to payment for the services of the Surveyor when in their District.

A slightly larger number of townsite plans have been presented for approval, they being mainly in connection with the Railway Companies.

With regard to the Alberta and British Columbia Boundary survey, progress has been satisfactory, although the expenditure has been slightly in excess of that of previous years, owing to the increased cost of labour and material.

Appended is a summary of the work of this Branch during the year 1919, as also the reports of the District Surveyors and Engineers.

I have the honour to be, Sir,

Your obedient servant,

A. P. C. BELYEA,

Assistant Director of Surveys.

SUMMARY.

Surveys required and brought forward from 1918	797
Surveys asked for during 1919	773
Surveys made during 1919	457
Surveys carried over to 1920 schedule	989
Surveys made without instructions (included in the above figures)	53
Miscellaneous examinations made during the season	77
Surveys cancelled during 1919	47
Plans prepared and filed in the Land Titles Office	745
Certificates of Title received for roads	777
Certificates of Title received for lands given for public purposes under Departmental Regulations regarding subdivisions	17
Certificates of Title of Public Buildings	2

Certificates of Title received for Land other than surveyed roads (areas cut off by surveyed roads)	1
Transfers issued covering roads no longer required	184
Number of Plans of subdivisions approved during 1919	45

LEASE OF ROAD ALLOWANCES.

Number of new applications to lease road allowances	181
Number of new applications granted	79
Number of leases granted during the year 1919 (including free leases issued at compensation for surveyed roads)	285

EXPENDITURE OF SURVEYS BRANCH FOR THE YEAR 1919.

General expenses of surveys	$69,200.59
Alberta & B. C. Boundary survey	9,350.01
Compensation for surveyed roads	6,275.81
Provincial map	570.50
Printing	1,057.54
Survey posts	3,487.71
Sundries	557.43
	$90,499.59

INCOME OF SURVEYS BRANCH FOR THE YEAR 1919.

Fees received in respect of plans of subdivisions submitted	$5,842.50
Fees received from Municipal Districts for Sureyors engaged in their Districts	950.00
Rental from road allowance leases	813.00
Sundry fees from sale of maps, diagrams, etc.	82.25
	$7,687.75

A. P. C. BELYEA, ESQ.,

Assistant Directors of Surveys.

DEAR SIR,—I am submitting herewith a detailed report of the work performed by me in the Edmonton District during the field season just finished.

Your obedient servant,

MILTON BROWN,

District Engineer and Surveyor.

DIVERSIONS.

Survey No.	File No.	Location.
163-19	25584	Sections 4, 5, 33, Tp. 54-13-5.
56-16	23120	Sections 9, 16, Tp. 53-4-5.
536-18	24943	Section 1, Tp. 46-1-5.
45-19	25445	Section 16, Tp. 48-20-4.
116-19	25551	Section 3, Tp. 50-18-4.
642-18	15528	Section 4, Tp. 51-19-4.
52-19	25442	Section 8, Tp. 49-23-4.
637-19	25501	Sections 27, 28, Tp. 48-23-4.
839-18	25307	Sections 17, 99, Tp. 47-22-4.
537-18	24944	Section 3, Tp. 46-1-5.
504-19	25989	Sections 7-12, Tp. 53-20-4, N. 12, Tp. 53-21-4.

NEW ROADS.

328-12	19438	Sections 31-32-33, 30-29-28, Tp. 53-13-5.
350-19	25416	Sections 6-7, Tp. 54-13-5.
	23203-C	Sections 15, 16, Tp. 53-6-5.
	23203-B	Sections 18-19, Tp. 53-6-5.
	14538-C	Sections 26-27, Tp. 54-27-4.

Survey No.	File No.	Location.
238-19	25658	Tp. 52-3-5.
409-19	25830	Section 18, Tp. 59-4-5.
573-18	24987	Sections 10-11, Tp. 46-28-4.
39-19	25433	Sections 20-21, 17-16, Tp. 45-26-4.
398-19	15185	Section 32, Tp. 47-24-4.
77-19	25483	Sections 27-28, 33-34, Tp. 46-21-4.
337-19	16610	Tps. 49/48-16-15-14-4.
353-19	25827	Section 6, Tp. 51-22-4.
678-18	25170	Sections 22-23, 16-15, Tp. 57-19-4.
277-19	24726	Section 12, Tp. 58-17-4.
744-19	23023	Tp. 44-24-4.
53-19	25443	Sections 8-9-16, Tp. 49-23-4.
		PRIVATE ROADS.
750-18	25246	Section 2, Tp. 51-24-4.
107-19	25502	Section 30, Tp. 48-23-4.
361-19	25884	Section 30, Tp. 47-22-4.
401-19	25703	Sections 31/30, Tp. 56-19-4.
1-19	20091	Section 6, Tp. 51-25-4.
		EXAMINATIONS.
350-19	14538-C	Calahoo, Tp. 54-27-4.
740-19	15166-B	Sections 17-18, Tp. 48-23-4.
136-19	25459	Sections 2-3, Tp. 51-19-4.
190-19	25693	Section 11, Tp. 49-16-4.
282-19	20555	Section 18, Tp. 44-22-4.
		CHANGES.
738-19	15114-E	Sections 18-19, Tp. 53-5-5.
743-19	21793-B	Sections 13-14, Tp. 53-7-5.
289-19	24282	Section 6, Tp. 52-21-4.
6-19	22351	Section 12, Tp. 50-23-4.
679-19	21192-B	Sections 19-20, Tp. 48-23-4.
191-18	24635	Section 26, Tp. 47-23-4.
		MISCELLANEOUS.
741-19	25938	Section 23 (gravel pit), Tp. 51-22-4.
742-19	25939	Section 33 (gravel pit), Tp. 51-23-4.
86-19	19788	Section 8 (ditch), Tp. 52-24-4.
	24565	Sections 11-14 (chainage), Tp. 49-23-4.

CALGARY, December 13, 1919.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton.

SIR,—I have the honour to submit herewith Annual Report showing the work done during the past season in connection with surveys in the Public Works District of Calgary.

The early part of the season was occupied in the survey of right of way of the Lacombe-Blindman Valley Railway. This work was much delayed by the heavy snowstorm in May.

On completion of this work I returned to Edmonton and received my instructions for work in the Calgary District. I proceeded to Calgary on June 11th, and after a week's work in the office I took the field on June 20th.

The season on the whole has been a very favourable one. However, the heavy snowstorms and exceptionally cold weather during the latter part of October and during November almost completely tied up the work.

I reduced my party to one man on November 25th, retaining one man until December 10th, as there were a couple of trips I had to make. In view of the continued cold weather other trips which I had intended making will have to stand over.

Attached you will find detailed statement of the different classes of work performed during the season.

Your obedient servant,

P. N. JOHNSON,

District Surveyor and Engineer.

NEW ROADS.

Survey No.	File No.	Location.
549-12	20521	Secs. 4, 5 and 6, Tp. 32/25-4 and Sec. 32, Tp. 31-25-4.
805-18	21770	Sec. 14, Tp. 22-27-4.
858-18	25271	Sec. 6, Tp. 29-19-4.
897-18	23368	Secs. 29 and 32, Tp. 28-21-4.
898-18	24167	Secs. 3, 4, 5 and 6, Tp. 28-21-4.
904-18	25358	East ½ Sec. 36, Tp. 28-22-4.
171-19	15682	Sec. 14, Tp. 26-4-5.
331-19	18066	North ½ Sec. 13, Tp. 26-27-4.
336-19	25608	Secs. 14, 21 and 22, Tp. 24-20-4.
724-19	19334	Sec. 33, Tp. 28-21-4, and Sec. 4, Tp. 29-21-4.

ROAD DIVERSIONS.

515-17	24141	Secs. 7 and 17, Tp. 26-24-4.
767-17	24402	Sec. 17, Tp. 23-22-4.
800-17	24426	Sec. 1, Tp. 22-27-4.
640-18	25136	Sec. 20, Tp. 27-26-4.
747-18	25241	Sec. 25, Tp. 25-27-4.
899-18	20511	Secs. 14, 15 and 16, Tp. 28-22-4.
903-18	25357	Sec. 25, Tp. 28-22-4.
85-19	25545	Sec. 18, Tp. 24-23-4.
200-19	25654	Secs. 4 and 9, Tp. 27-24-4.
201-19	25653	Secs. 12 and 13, Tp. 27-24-4.
202-19	25656	Secs. 11 and 14, Tp. 27-24-4.
203-19	25655	West ½ Sec. 3, Tp. 27-24-4.
330-19	25819	Sec. 22, Tp. 25-28-4.
721-19	26085	Sec. 15, Tp. 28-21-4.
722-19	26086	Sec. 26, Tp. 28-21-4.
723-19	20511	Sec. 8, Tp. 28-22-4.
725-19	25366	Secs. 18 and 19, Tp. 28-21-4.
505-19	25993	Sec. 27, Tp. 27-27-4.
726-19	26091	Sec. 21, Tp. 24-22-4.

DRAINS.

329-19	19793	Drainage of slough north of Sec. 12, Tp. 26-27-4. Drainage of slough north of Sec. 20, Tp. 25-28-4.

EXAMINATIONS.

533-17	24208	Examination of road allowance between Sec. 15 and 16, Tp. 24-26-4.
800-17	24426	Examination of road allowance and retracing section lines east of Secs. 2, 11 and 14, Tp. 22-27-4.
197-18	24645	Examination of road out of Wayne in Sec. 7, Tp. 28-19-4.

Survey No.	File No.	Location.
139-19	14119	Examination of surveyed road in S.W. ¼ Sec. 2, Tp. 25-4-5.
171-19	30470	Examination of road allowances in Tp. 26-4-5.
		Examination of road allowance north of N.E. ¼ Sec. 8, Tp. 23-22-4.
		Examination of road allowance between Secs. 7 and 18, Tp. 25-27-4, re seepage from Irrigation ditch.
		Examination of east boundary, Sec. 33, Tp. 27-27-4.

RAILWAY RIGHT OF WAY.

Survey of right of way of Lacombe-Blindman Valley Railway from Lacombe to Bentley.

RAILWAY CROSSINGS.

14060-14 Examination of road crossings of the C.P.R. Langdon North Branch (east of Acme).

CHANGES IN SURVEYED ROADS.

14110-B3 Change in C. & E. trail in N.E. ¼ Sec. 13, Tp. 40-27-4.

LACOMBE, December 31, 1919.

A. P. C. BELYEA, ESQ.,

Assistant Director of Surveys,

Edmonton, Alta.

SIR,—I beg to submit the following report in connection with the work performed by myself and party in the Lacombe Public Works District, during the season of 1919, and attached hereto is a schedule showing the work done, and classified as New Roads, Road Diversions and Examinations.

At the beginning of the year my time was spent as usual in preparing the returns of the previous season's field work.

I organized my party of two men and took the field on May 12th. I moved toward the east, making surveys in the vicinity of Alix, Stettler, Gadsby and Halkirk. From here I moved southward, making surveys at Big Valley, Rumsey, Rowley and Morrin, thence north of Delia and Craigmyle. After completing surveys in this neighborhood, I pulled west of Olds and made surveys in the vicinity of Bearberry, Sundre and Mound. From here I moved west of Innisfail, thence to Rocky Mountain House, where I completed survey running north along the west side of the Saskatchewan River, and then pulled into headquarters and disbanded on October 31st.

On account of very little rain, the season was exceptionally good for field work, and we were able to use the auto to advantage, yet with such a small party it is not possible to accomplish a great amount of work.

The balance of the year was spent in the office preparing plans and field notes.

Your obedient servant,

A. S. STEWART,

District Surveyor and Engineer.

NEW ROADS.

Survey No.	File No.	Location.
194-16	23288	New road through Secs. 13/14/18, Tp. 36, Rgs. 6/7, W. 5.
802-15	14726-B	New road through Sec. 33-32-4-5 (change).
514-17	20683	New road on ¼ line in Sec. 16-32-21-4.
571-17	22885	New road across Sec. 26-39-23-4.
575-17	17641-B	New road through Secs. 5/8-17-20-37-17-4 (change).
738-17	24377	New road across Sec. 15-36-4-5 (change).
815-17	22220	New road in N.W. 16 and S.E. 17-38-27-4.
122-18	24553	New road across Secs. 5/8/17-36-17-4.
816-18	21877	New road in Tp. 41, Rgs. 6/7, W. 5.
850-18	14250-B	New road in Secs. 5/6-39-23-4 (change).
185-19	16100	New road in N.W. 29-41-21-4 (change).
231-19	24650	New road in Sec. 24-38-16-4.
292-19	25278	New road along blind line south of Sec. 23-38-16-4.
532-10	25544	New road in Sec. 6-36-28-4.
756-19	14635	New road in Sec. 4-43-25-4.

ROAD DIVERSIONS.

281-08	14794	Diversion in S.E. 29-33-4-5.
277-12	20165	Diversion in N.E. 22 and S.E. 27-33-7-5.
389-18	22276	Diversion in E. ½ Sec. 33 and S.E. 4, Tps. 34/35-2-5.
483-15	22498	Diversion in N.E. 35 and N.W. 36-31 and S.W. 2-32-19-4.
580-15	22881	Diversion between Secs. 8/17-33-6-5.
584-15	22817	Diversion in N.W. 11-33-6-5.
201-16	23340	Diversion in N.W. 1, N.E. 11, S.E. 14 and W. ½ 12-36-21-4.
263-16	20923-B	Diversion in N. ½ 22, N.W. 23 and S. ½ 27-36-21-4.
459-16	20923-C	Diversion between Secs. 19/30-36-21-4.
437-17	24121	Diversion between Secs. 28/29 and 32/33-36-21-4.
443-17	22699	Diversion in N.W. 10 and S.W. 15-32-21-4.
490-17	14793	Diversion in N.E. 31-33-4-5.
492-17	24176	Diversion in S.W. 25-33-5-5.
493-17	17683	Diversion between Secs. 16/17 and 20/21-33-4-5.
513-17	24138	Diversion in S.E. 2, S.W. 6 and N. ½ 32-33/34-20-4.
696-17	24326	Diversion in W. ½ 24, E. ½ 26, S.E. 35 and N.W. 36-36-19-4.
697-17	24327	Diversion in W. ½ Sec. 28-36-19-4.
704-17	24347	Diversion in N.W. 23-34-17-4.
705-17	24348	Diversion in S.W. 14 and S.E. 15-34-17-4.
737-17	24378	Diversion in N.W. 10, S.W. 15 and S.E. 16-36-4-5.
342-18	14752	Diversion in W. ½ Sec. 23-38-22-4.
390-18	24805	Diversion in S.E. 15-34-3-5.
443-18	24861	Diversion in S.W. 10-31-17-4.
634-18	25131	Diversion in S.W. 27-38-19-4.
636-18	25138	Diversion in N.W. 23-36-19-4.
653-18	25157	Diversion in N.E. 8 and S.W. 16-38-16-4.
654-18	25158	Diversion in N.E. 33-37-16-4.
661-18	25159	Diversion in N.E. 19-39-17-4.
749-18	25264	Diversion in N.E. 22 and N.W. 23-36-21-4.
751-18	25267	Diversion in N.E. 9, S.E. 16 and S.W. 15-34-17-4.
752-18	25268	Diversion in N.W. 35, S.W. 2 and S.E. 3-35/36-17-4.
753-18	25269	Diversion in S.W. 14-36-17-4.
766-18	24286	Diversion in N.E. 33 and N.W. 34-41-23-4.
137-19	20734	Diversion in N.W. 32-34-20-4.
654-19	20652-B	Diversion in W. ½ Sec. 26-39-22-4 (change).

EXAMINATIONS.

770-15	22935	Examination west of Sec. 31-31-16-4.
762-16	23719	Examination in Secs. 29/29-33-32-19-4.
445-17	24139	Examination of blind line north of Sec. 2-32-21-4.
446-17	24140	Examination between Secs. 11/14-31-20-4.
695-17	24325	Examination between Secs. 32/33-35-19-4.
698-17	24328	Examination in E. ½ Sec. 5-36-19-4.
359-18	24776	Examination in W. ½ Sec. 25-41-26-4.
445-18	24860	Examination south of S.E. 5-31-16-4.
446-18	24859	Examination of blind line north of Sec. 29-31-16-4.
447-18	24858	Examination between Secs. 21/28-33-17-4.

Survey No.	File No.	Location.
471-18	24863	Examination north of Secs. 10/11/12-33-17-4.
633-18	25130	Examination in N.W. 19-37-20-4.
635-18	25137	Examination east of Secs. 22/27-36-19-4.
728-18	25207	Examination east of N.E. 21-32-19-4.
794-18	15636-B	Examination in N.E. 13-41-23-4.
847-18	25310	Examination of blind line between Secs. 26/35-36-19-4.
298-19	22182	Examination and re-survey in S.E. 14-31-3-5.
141-19	14023 1541	Examination of subdivision in S.W. 26-40-1-5.

YOUNGSTOWN, November 1, 1919.

L. C. CHARLESWORTH, ESQ.,

Deputy Minister of Public Works,

Edmonton, Alberta.

SIR,—I have the honour to submit herewith the following report in connection with surveys performed during the season of 1919.

Before leaving Calgary in May, I made a few surveys in the Calgary District, and when driving through by automobile from Calgary to Youngstown checked up several surveys and made some changes in others. I reached Youngstown the latter part of May.

In the Youngstown District I made surveys in the following Municipalities: Berry Creek, Cereal, Collholme, Bertawan, Golden Centre, Sounding Creek, Richdale, Canmer, Wiste, Hiram, Dowling Lake and Lambton.

The weather as a whole was favourable for survey work. Throughout the whole district the crops this year were very poor. not so much through the lack of moisture, as we had a considerable amount of rain, but in June there were a few days on which very hot dry winds were blowing, and the crops never recovered from this.

The season was cut very short, as on October 18th we had our first snow and sleet storm. Everyone thought it was our usual October snow storm and expected it to leave in a few days. However the snow continued and the weather kept cold, and I was forced to disband my party, as the roads became next to impassable.

Below is a list of the various work done under the following heads: New Roads, Road Diversions, Changes in Surveys and Examinations.

Your obedient servant,

W. H. YOUNG,

District Surveyor and Engineer.

NEW ROADS.

Survey No.	File No.	Location.
63-16	23127	Blind line road across Secs. 16/21, 17/20 and 18/19, Tp. 30-11-4.
63-16	23127	Road through Secs. 33 and 34, Tp. 30-12-4.
689-15	22990	Blind line road across Secs. 15/22-14/23-13-24, Tp. 28-9-4, and across Secs. 18/19-17/20, Tp. 28-8-4.
686-16	23660	Blind line road, across Secs. 14/23-15/22 and 21, Tp. 31-2-4.

Survey No.	File No.	Location.
436-18	24718	Blind line road, across Secs. 5/8-4/9-3/10 and 11, Tp. 32-2-4.
484-18	21345	Road across S.E. Sec. 24, Tp. 31-1-4.
514-18	24879	Road across Secs. 21 and 20, Tp. 31-1-4.
41-19	22121-B	Road across Secs. 13 and 14, Tp. 30-5-4.
126-19	25531	Road across Secs. 4/9-3/10, Tp. 28-1-4.
342-19	25741	Road across Secs. 20, 21, 22, 23 and 24, Tp. 31-16-4, and across Secs. 18 and 19, Tp. 31-15-4.
372-19	25848	Blind line, across Secs. 4/9, Tp. 29-8-4.
405-19	25874	Blind line N. Sec. 29 and S. Sec. 31, Tp. 30-3-4.
508-19	25859	Road through Secs. 8, 9 and 16, Tp. 31-2-4.
544-19	25865	Blind line across Secs. 25/36, Tp. 31-2-4.
547-19	25866	Road along N. and S. ¼ line, Secs. 30 and 31, Tp. 32-2-4.
704-19	26072	Road across ¼ line, Sec. 30, Tp. 31-1-4.

ROAD DIVERSIONS.

214-14	21590	In S.W. Sec. 6, Tp. 32-9-4.
972-14	22216	In N.W. Sec. 3 and N.E. Sec. 4, Tp. 31-4-4.
315-16	23386	In Secs. 29 and 32, Tp. 29-11-4.
427-16	23474	In N.E. Sec. 1 and S.E. Sec. 1, Tp. 26-9-4.
428-16	23473	In west half Sec. 18-26-8-4.
607-16	23571	In S.W. Sec. 1, Tp. 31-10-4.
27-18	24507	In S.E. Sec. 32, Tp. 32-7-4.
107-18	24560	In S.E. Sec. 26, Tp. 31-7-4.
118-18	24569	In S.W. Sec. 1, Tp. 32-10-4, an din N.W. Sec. 36, Tp. 31-10-4.
369-18	24782	In S.E. Sec. 2, Tp. 31-9-4.
463-18	24893	In S.W. Sec. 6, Tp. 29-5-4.
465-18	24891	In Secs. 7, 8, 17 and 18, Tp. 31-4-4.
466-18	24890	In west half Sec. 30 and S.W. Sec. 31, Tp. 30-4-4.
474-18	24887	In east half Sec. 27, Tp. 27-9-4.
510-18	24875	In west half Sec. 11, Tp. 32-3-4.
511-18	24876	In S.W Sec. 13, Tp. 32-3-4.
512-18	24877	In S.W. Sec. 32, Tp. 30-3-4.
513-18	24878	In S.W. Sec. 6, Tp. 32-1-4.
515-18	24880	In N.E. Sec. 23 and east half Sec. 26, Tp. 31-1-4.
541-18	24941	In S.W. Sec. 29, Tp. 31-7-4.
621-18	25126	In south half Sec. 25, Tp. 31-5-4.
967-18	25334	In N.W. Sec. 25, Tp. 30-1-5.
968-18	22876	In S.W. Sec. 29, Tp. 31-2-4.
746-19	22479	In S.W. Sec. 27, Tp. 29-1-5.
204-19	25643	In N.E. Sec. 19, Tp. 31-4-4.
211-19	25625	In Secs. 11 and 12, Tp. 32-1-4.
212-19	25621	In N.E. Sec. 8, Tp. 32-2-4.
213-19	25624	In south half Sec. 2, Tp. 32-1-4.
214-19	25622	In north half Sec. 21, Tp. 31-3-4.
215-19	25642	In S.W. Sec. 35, Tp. 30-4-4.
216-19	25626	In west half Sec. 5 and in S.W. Sec. 8, Tp. 30-1-4.
345-19	25841	In N.W. Sec. 9, Tp. 31-15-4.
346-19	25842	In N.E. Sec. 11, Tp. 31-15-4.
347-19	25843	In N.W. Sec. 32, Tp. 30-15-4, and in S.W. Sec. 5, Tp. 31-15-4.
348-19	25740	In N.E. Sec. 5 and east half Sec. 8, Tp. 31-15-4.
349-19	25742	In Secs. 16 and 17, Tp. 31-15-4.
359-19	25637	In S.W. Sec. 18, Tp. 29-8-4.
373-19	25885	In N.W. Sec. 33, Tp. 30-10-5.
374-19	25886	In Secs. 25, 26 and 36, Tp. 31-10-4.
375-10	25887	In S.E. Sec. 32 and N.E. Sec. 29, Tp. 31-11-4.
376-19	25888	In Secs. 5 and 8, Tp. 30-11-4.
472-19	25787	In west half Sec. 8, Tp. 28-5-4.
473-19	25788	In S.W. Sec. 2 and S.E. Sec. 3, Tp. 28-6-4.
474-19	25789	In west half Sec. 33, Tp. 26-6-4.
475-19	25790	In S.W. Sec. 21, west half Sec. 16 and N.E. Sec. 17, Tp. 27-6-4.
507-19	25817	In Secs. 1, 2 and 11, Tp. 29-5-5, and in N.E. Sec. 35, Tp. 28-5-4.
523-19	26004	In S.E. Sec. 28, S.W. Sec. 27 and N.W. Sec. 22, Tp. 31-4-4.
536-19	25896	In N.E. Sec. 11, Tp. 30-1-4.

Survey No.	File No.	Location.
537-19	25895	In N.W. Sec. 4, Tp. 32-2-4.
546-19	25867	In N.W. Sec. 19, Tp. 32-2-4.
552-19	25864	In west half Sec. 34, Tp. 32-2-4.
553-19	25904	In N.E. Sec. 36, Tp. 31-4-4.
554-19	25903	In east half Sec. 35, Tp. 32-3-4.
555-19	25902	In S.E. Sec. 16, Tp. 32-3-4.
556-19	25901	In S.E. Sec. 28, Tp. 32-3-4.
557-19	25900	In N.W. Sec. 22, Tp. 32-3-4.
558-19	25899	In S.E. Sec. 19, Tp. 32-1-4.
559-19	25898	In S.E. Sec. 30 and N.E. Sec. 19, Tp. 32-1-4.
702-19	26071	In S.E. Sec. 6, Tp. 32-2-4.
703-19	26070	In S.W. Sec. 4, Tp. 32-2-4.
719-19	23963-B	In S.E. Sec. 17, Tp. 30-9-4.
		CHANGE IN SURVEYS.
611-18	21302-B	Change in east half Sec. 17, Tp. 31-15-4.
237-19	22215-B	Change in west half Sec. 7, Tp. 24-9-4.
281-19	24699	Change in Sec. 28, Tp. 29-5-4.
343-19	21934-B	Change in Sec. 19, Tp. 27-20-4.
		EXAMINATIONS.
187-15	22501	Examination of road allowances around Secs. 5 and 8, Tp. 30-6-4.
467-16	23495	Examination of road allowances east and south of Sec. 5, Tp. 30-11-4.
219-18	24654	Examination road allowance between Secs. 16/17, Tp. 30-9-4.
220-18	24655	Examination of road allowance between Secs. 23/26, Tp. 29-7-4.
221-18	24656	Examination of road allowance between Secs. 17/18, Tp. 29-7-4.
332-18	24756	Examination of road allowance, E. Sec. 7, Tp. 30-9-4.
464-18	24892	Examination of road allowance between Secs. 12/13, Tp. 31-6-4.
613-18	25118	Examination of road allowance east of N.E. Sec. 14, Tp. 32-15-4.
730-18	14067-7	Examination of railway crossing between Secs. 2/3, Tp. 25-12-4.
731-18	14067-7	Examination of railway crossing between Secs. 11/12, Tp. 24-12-4.
195-19	25641	Examination of road allowance west Sec. 8, Tp. 31-6-4.
344-19	19795	Levels, etc., on slough between Secs. 7/18, Tp. 32-15-4.
535-19	25897	Examination of road allowance between Secs. 13/14, Tp. 30-1-4.
733-19	26097	Examination of proposed diversion and bridge site east Sec. 24, Tp. 30-9-4.

LETHBRIDGE, December 1, 1919.

A. P. C. BELYEA, ESQ.,
Assistant Director of Surveys,
Department of Public Works,
Edmonton, Alberta.

SIR,—I have the honour to submit herewith the following report in connection with Surveys performed during the season of 1919 in the district of South Alberta. The work is classified under New Roads, Road Diversions, Examinations, Changes in Existing Surveys and Miscellaneous Surveys.

I arrived in Lethbridge on May 6th, and after making an examination of all plans and office records, I left for Cardston and com-

menced the field season with the survey of a new road across the Blood Indian Reserve from Cardston to Hillspring. Making my headquarters at Cardston, surveys were then completed in all directions from this point. Likewise I then covered the districts surrounding Brocket, Pincher Creek, Beaver Mines, Lundbreck, Crow's Nest, Macleod, Lethbridge and Warner. On October 15th, while working at this latter place, I received urgent instructions to hold all other work in abeyance and commence an examination, with necessary surveys, on the Walsh-Crow's Nest Main Highways through my district. This work was seriously interfered with by the setting in of winter weather on October 23rd. However, the surveys were finally completed and the field party disbanded on November 22nd.

During the past season I have carried on the survey work, in the Lethbridge district, with a party of two men and the use of a motor car. I found that this arrangement was quite satisfactory in the prairie portions of the district, while in the westerly and wooded areas I was very seriously handicapped by the lack of help in cutting out the lines and digging the pits. I consider that the efficiency of the field party would be greatly increased if the Surveyor were permitted to engage additional help locally when working in the rough and heavily wooded areas.

Generally speaking the season was favourable to the carrying on of survey work, although the very early winter interfered with the completion of several urgent surveys.

Field plans with reports were submitted during the season as the work progressed, and the final plans with office records are now being prepared.

All of which is respectfully submitted.

Your obedient servant,

HOMER P. KEITH,

District Surveyor and Engineer.

NEW ROADS.

Survey No.	File No.	Location.
377-15	14167	New road in Secs. 35/36, Tp. 6-30-4.
882-15	23084	New road in Secs. 30, 19, 17 and 16, 18, Tp. 5-2-5.
883-15	23085	New road in Secs. 15, 21 and 22, Tp. 5-2-5.
116-16	22348	New road in Sec. 8, Tp. 6-2-5.
242-17	14191	New road in Secs. 15 and 22, Tp. 1-24-4.
385-17	24094	New road in Secs. 10 and 11, Tp. 5-1-5.
104-18	21922	New road in Secs. 25 and 36, Tp. 4-18-4.
124-18	20599	New road in Secs. 26, 27, 28, 21, 20, 17 and 8, Tp. 7-2-5.
233-18	24677	New road in Secs. 3 and 11, Tp. 1-27-4.
351-18	24767	New road in Secs. 16, 17 and 18, Tp. 7-26-4.
399-18	24806	New road in Sec. 7, Tp. 6-2-5.
641-18	25116	New road in Sec. 12, Tp. 7-30-4.
822-18	18140	New road through Blood Indian Reserve from Cardston to Hillspring.
34-19	15867	New road through Piegan Indian Reserve from south boundary of Reserve to Brocket.
38-19	25434	New road in Secs. 4, 9 and 10, Tp. 3-26-4.
40-19	24882	New road in Secs. 25 and 36, Tp. 2-28-4.
42-19	18745	New road in Secs. 4, 8 and 9, Tp. 10-23-4.
84-19	25474	New road in Sec. 1, Tp. 5-27-4.

Survey No.	File No.	Location.
273-19	25668	New road in Sec. 10, Tp. 4-17-4.
279-19	20864	New road in Secs. 3 and 10, Tp. 6-2-5.
355-19	25809	New road in Sec. 12, Tp. 1-24-4.
382-19	18392	New road in Sec. 19, Tp. 9-22-4, Sec. 24, Tp. 9-23-4.
388-19	23215	New road through Blood I. Reserve from Cardston to Glenwood.
484-19	25911	New road in Sec. 1, Tp. 3-30-4.
692-19	26068	New road in Sec. 2, Tp. 5-13-4.
693-19	26069	New road in Secs. 35, 23 and 22, Tp. 3-13-4.
705-19	14167-C	New road in Secs. 10, 3 and 4, Tp. 9-26-4, Secs. 30, 31 and 32, Tp. 8-26-4.
754-19	14508	New road in Sec. 26, Tp. 7-2-5.
720-19	16200	New road in Sec. 19, Tp. 7-1-5.

ROAD DIVERSIONS.

568-19	14201	Road diversion in Sec. 15, Tp. 6-30-4.
420-14	21818	Road diversion in Sec. 33, Tp. 2-29-4, Sec. 3, Tp. 3-29-4.
96-15	22381	Road diversion in Sec. 30, Tp. 7-25-4.
511-16	23527	Road diversion in Sec. 17, Tp. 5-29-4.
512-16	23526	Road diversion in Sec. 9, Tp. 6-27-4.
164-17	14299-B	Road diversion in Secs. 5 and 6, Tp. 6-29-4.
399-17	18216	Road diversion in Sec. 24, Tp. 7-2-5.
410-17	21571	Road diversion in Sec. 23, Tp. 5-29-4.
46-18	15183-B	Road diversion in Sec. 7, Tp. 6-1-5.
108-18	24561	Road diversion in Sec. 24, Tp. 4-18-4.
358-18	24773	Road diversion in Sec. 21, Tp. 9-26-4.
182-19	25383	Road diversion in Secs. 19 and 20, Tp. 8-29-4.
384-19	25907	Road diversion in N.W. ¼ Sec. 13, Tp. 5-29-4.
385-19	25908	Road diversion in S.W. ¼ Sec. 13, Tp. 5-29-4.
386-19	25909	Road diversion in Sec. 9, Tp. 5-29-4.
389-19	14479-B	Road diversion in Sec. 32, Tp. 5-29-4.
390-19	14759-B	Road diversion in Sec. 11, Tp. 6-27-4.
456-19	25692	Road diversion in Secs. 8 and 17, Tp. 6-26-4.

EXAMINATIONS.

316-13	21023	Examination in Secs. 11 and 14, Tp. 8-26-4.
431-13	21135	Examination in Secs. 7 and 8, Tp. 7-25-4.
200-16	18265	Examination in N.W. 16, Tp. 6-1-5.
513-16	23525	Examination in Secs. 9 and 10, Tp. 6-27-4.
762-17	21792	Examination in Sec. 34, Tp. 5-28-4.
763-17	14144	Examination in Sec. 35, Tp. 5-29-4.
364-18	18196	Examination in Sec. 13, Tp. 7-26-4.
869-18	16086	Examination in Sec. 4, Tp. 8-4-5.
	40-05	Examination of Main Highway across Piegan Indian Reserve.
758-19	18017	Examination in Secs. 4 and 9, Tp. 14-24-4.
79-19	25523	Examination in Sec. 32, Tp. 9-20-4.
	38	Examination in Secs. 16, 21, 28, Tp. 8-21-4.

CHANGES IN EXISTING SURVEYS.

234-19	22939-B	Change in survey in Secs. 27 and 34, Tp. 2-27-4.
362-19	14774	Change in survey in Sec. 25, Tp. 9-26-4.
	14283	
755-19	14200-A	Change in survey in Secs. 18 and 19, Tp. 7-2-5.

MISCELLANEOUS SURVEYS.

173-13	20883	Taking levels and making plan and report on drainage of Halifax Lake in Sec. 12, Tp. 6-29-4.
184-19	14769-B	Check to previous survey in Sec. 9, Tp. 7-29-4.

CALGARY, December 12, 1919.

L. C. CHARLESWORTH, ESQ.,
Director of Surveys,
Edmonton, Alta.

SIR,—I have the honour to submit the following general report showing the different surveys made in the District of Medicine Hat during the season of 1919.

I left here for Medicine Hat on May 13th, and worked till November 25th. The season was dry and favourable for making surveys until the first of November, after which there was some broken time, owing to the severity of the weather.

Following are the surveys made.

Your obedient servant,

GEORGE MCMILLAN.

NEW ROADS.

Survey No.	File No.	Location.
331-14	21721	Secs. 27, 33 and 34, Tp. 6-10-4.
131-15	18060-B	Secs. 14 and 13, Tp. 10-14-4; Secs. 18, 17, 16, 15, 14 and 13, Tp. 10-13-4; Secs. 18, 17, 16, 15, 22 and 23, Tp. 10-12-4; Secs. 27, 28, 34 and 35, Tp. 10-11-4.
645-16	23106-B	Secs. 16, 17, 18 and 24, Tp. 6-9-4; Secs. 18, 19, 17, 20, 16, 21, 15 and 22, Tp. 6-8-4.
542 17	24039	Secs. 10, 11 and 12, Tp. 7-6-4.
689-17	24307	Secs. 19 and 30, Tp. 12-10-4.
31-18	24510	Secs. 4, 9 and 16, Tp. 13-9-4.
103-18	24556	Sec. 6, Tp. 22-7-4.
282-18	24697	Secs. 22, 14, 15 and 11, Tp. 10-1-4.
83-19	25522	Sec. 7, Tp. 5-5-4.
166-19	25582	N. ½ Sec. 18 and S.E. ¼ Sec. 19, Tp. 11-2-4.
228-19	23727-B	Secs. 15 and 22, Tp. 15-3-4.
284-19	25747	Secs. 19, 17, 16, 15, 14 and 13, Tp. 6-12-4, and Secs. 18 and 17, Tp. 6-11-4.
289-19	18819	Secs. 9 and 10, Tp. 12-1-4.
357-19	25868	Secs. 29, 32 and 33, Tp. 14-5-4.
410-19	25965	Secs. 3 and 4, Tp. 22-7-4.
417-19	25975	Sec. 25 and 32, Tp. 21-6-4.
434-19	25782	S. ½ Sec. 32, Tp. 14-10-4.
578-19	25940	Sec. 29, 30, 31 and 32, Tp. 6-12-4.
628-19	26037	Sec. 34, Tp. 5-10-4.
676-19	26052	Secs. 28, 29 and 30, Tp. 5-10-4.
683-19	15922-C	Secs. 18 and 19, Tp. 13-6-4, and Sec. 24, Tp. 13-7-4.
683-19	15922	Secs. 6 and 7, Tp. 14-7-4.
706-19	26005	S.E. ¼ Sec. 4, Tp. 11-7-4.
710-19	26074	Sec. 8, Tp. 10-14-4.

DIVERSIONS.

521-14	21844	W. ½ Sec. 13, Tp. 8-4-4.
526-14	21170	Secs. 11 and 12, Tp. 12-8-4.
604-15	22770	W. ½ Sec. 31, Tp. 4-6-4.
702-15	22513	E. ½ Sec. 3, Tp. 12-1-4.
703-15	22911	Secs. 22, 27 and 28, Tp. 3-7-4.
861-15	21890	Sec. 19, Tp. 5-5-4.
206-16	23295	N.E. ¼ Sec. 10, S.E. ¼ Sec. 15, and N.W. ¼ Sec. 11, Tp. 6-6-4.
211-16	23293	S.W. ¼ Sec. 18, Tp. 5-11-4.
727-16	23671	E. ½ Sec. 36, Tp. 8-5-4.

Survey No.	File No.	Location.
237-18	24673	N.E. ¼ Sec. 33, and N.E. ¼ Sec. 32, Tp. 17-7-4, S.W. ¼ Sec. 4 and S. ½ Sec. 5, Tp. 18-7-4.
357-18	20491	S.W. ¼ Sec. 4, Tp. 22-12-4.
109-19	25554	W. ½ Sec. 3, Tp. 4-5-4.
110-19	25555	S.E. ¼ Sec. 33, Tp. 3-5-4.
118-19	25571	N.W. ¼ Sec. 36, Tp. 6-9-4.
119-19	16492	S.E. ¼ Sec. 10, and S.W. ¼ Sec. 11, Tp. 12-2-4.
122-19	21710	S.E. ¼ Sec. 13, Tp. 12-2-4, N.W. ¼ Sec. 18 and N.W. ¼ Sec 19, Tp. 12-1-4.
132-19	25564	N.W. ¼ Sec. 33, Tp. 6-6-4.
133-19	25565	N.W. ¼ Sec. 19, Tp. 6-6-4.
172-19	25604	Sec. 13, Tp. 3-8-4.
192-19	25687	S.W. ¼ Sec. 25, Tp. 13-3-4.
193-19	25670	Secs. 23, 25 and 26, Tp. 13-3-4.
229-19	25697	N.W. ¼ Sec. 19, Tp. 11-3-4.
230-19	25698	N.W. ¼ Sec. 30, Tp. 10-3-4.
232-19	25629	E. ½ Sec. 35 and N.E. ¼ Sec. 26, Tp. 5-6-4.
235-19	25696	N.E. ¼ Sec. 19, Tp. 10-3-4.
241-19	25671	Secs. 31, 29, 19, 20 and 17, Tp. 1-10-4.
285-19	25772	S.W. ¼ Sec. 5 and S.E. ¼ Sec. 6, Tp. 10-1-4.
286-19	25775	N.W. ¼ Sec. 31, Tp. 9-1-4.
288-19	25791	S.W. ¼ Sec. 5, Tp. 13-7-4.
295-19	25773	N.E. ¼ Sec. 17, Tp. 7-2-4.
300-19	14524	N.E. ¼ Sec. 11, N.W. ¼ Sec. 12 and S.E. ¼ Sec. 22, Tp. 8-4-4.
304-19	25746	N.E. ¼ Sec. 10 and S.W. ¼ Sec. 11, Tp. 9-1-4.
356-19	25850	S.W. ¼ Sec. 19 and N.E. ¼ Sec. 19, Tp. 21-2-4.
365-19	25876	N.E. ¼ Sec. 19, Tp. 21-4-4.
366-19	25877	N.E.¼ Sec. 25, Tp. 21-3-4.
367-19	25878	N.E. ¼ Sec. 31 and N.W. ¼ Sec. 32, Tp. 17-6-4.
368-19	25879	S.E. ¼ Sec. 5, Tp. 18-6-4.
369-19	25880	N.W. ¼ Sec. 31, Tp. 15-8-4.
370-19	25881	N.W. ¼ Sec. 31, Tp. 17-6-4, and N.E. ¼ Sec. 36, Tp. 17-7-4.
371-19	25882	S.E. ¼ Sec. 2, Tp. 18-7-4.
378-19	25872	S.W. ¼ Sec. 2, Tp. 5-7-4, and N.E. ¼ Sec. 34, Tp. 4-7-4.
379-19	25873	N.E. ¼ Sec. 23 and S.W. ¼ Sec. 26, Tp. 5-9-4.
403-19	25947	N.E. ¼ Sec. 33, Tp. 18-1-4.
407-19	25966	S.E. ¼ Sec. 30 and S.W. ¼ Sec. 29, Tp. 21-5-4.
408-19	25967	N.W. ¼ Sec. 6, Tp. 22-7-4.
418-19	25980	N.W. ¼ Sec. 22, Tp. 17-1-4.
419-19	25981	N. ½ Sec. 7, Tp. 17-1-4.
420-19	25982	S.W. ¼ Sec. 16, Tp. 17-1-4.
421-19	25983	S.W. ¼ Sec. 22, Tp. 18-2-4.
422-19	25984	S.E. ¼ Sec. 28, Tp. 17-2-4.
423-19	25985	S.W. ¼ Sec. 35, Tp. 18-1-4.
424-19	25986	S.E. ¼ Sec. 2, Tp. 19-1-4.
435-19	25783	S.W. ¼ Sec. 19, Tp. 14-10-4.
483-19	25695	Secs. 22, 27, 28 and 33, Tp. 1-10-4.
635-19	26026	N.E. ¼ Sec. 7, Tp. 9-6-4, and S.W. ¼ Sec. 13, Tp. 9-7-4.
669-19	26048	S.E. ¼ Sec. 13, Tp. 1-10-4.
677-19	25853	N.W. ¼ Sec. 3, Tp. 12-8-4.

CHANGE OF SURVEY.

392-19	23477	Sec. 17, Tp. 26-9-4.

EXAMINATION OF RAILWAY CROSSINGS.

80-19	21894	N.W. ¼ Sec. 14, Tp. 23-1-4.
	14067-7	N.E. ¼ Sec. 7 and S.W. ¼ Sec. 17, Tp. 17-8-4.
	14067-7	N.E. ¼ Sec. 36, Tp. 19-11-4.
	14067-7	N.E. ¼ Sec. 33, Tp. 17-9-4.
	14067-7	N.E. ¼ Sec. 19, Tp. 20-12-4.

EDMONTON, December 11, 1919.

A. P. C. BELYEA, ESQ.,
Assistant Director of Surveys,
Edmonton, Alta.

SIR,—I beg to submit the following report in connection with work done during the season of 1919 in the Public Works district of North Alberta.

On returning from overseas, I started working with the Department again on the first of March and worked in the office until May 12th, when I organized my party and started work in the field.

Commencing work at Bon Accord, and moving north along the Saskatchewan River, I completed the work at Pine Creek, Pakan and Wahstao. I then moved over to Waugh and completed the resurvey of the Edmonton and Athabasca Trail from a point south of Stony Creek to Battenburg. I then made the small surveys asked for east and west of this section of the trail.

On October 1st I went up to Spirit River and on completing the work there moved south to Grande Prairie, and had almost completed the work about Grande Prairie City and Lake Saskatoon when the weather became so severe that I had to stop work on November 13th, leaving for Edmonton on the 14th.

I have the honour to be, Sir,

Your obedient servant,

E. D. ROBERTSON.

DIVERSIONS.

Survey No.	File No.	Location.
549-18	24957	Diversion in West ½ Sec. 22, Tp. 57-26-4.
321-19	25702	Diversion in West ½ Sec. 4, Tp. 71-6-6.
453-19	25771	Diversion in West ½ Sec. 32, Tp. 59-23-4.
672-19	26045	Diversion in Secs. 12 and 14, Tp. 58-24-4.
673-19	26044	Diversion in S.E. ¼ Sec. 27, Tp. 59-24-4.
674-19	26046	Diversion in S.E. ¼ Sec. 12, Tp. 57-24-4.
717-19	26083	Diversion in N.E. ¼ Sec. 9, Tp. 78-6-6.
728-19	26095	Diversion in N. ½ Sec. 33, Tp. 70-6-6.
731-19	26094	Diversion in S.E. ¼ Sec. 17, Tp. 71-7-6.
759-19	23790	Diversion in N. ½ Sec. 20, Tp. 57-22-4.

NEW ROADS.

46-19	25444	New road in Sec. 18, Tp. 56-23-4.
65-19	21597	New road in Secs. 13 and 14, Tp. 59-23-4.
306-19	25723	New road in Sec. 22, Tp. 78-6-6, and Lot 32, Spirit River Settlement.
307-19	25722	New road north Sec. 30, Tp. 77-5-6.
452-19	25752	New road north Sec. 25, Tp. 72-6-6.
489-19	25776	New road in Secs. 9, 4, 3, Tp. 59-22-4.
587-19	20085-B	New road in Sec. 31, Tp. 57-22-4.
729-19	26093	New road in Lot 5, Flying Shot Settlement.

EXAMINATIONS.

318-19	25699	Examination in Secs. 28, 33, Tp. 71-8-6.
319-19	25701	Examination in Sec. 11, Tp. 71-6-6.
680-19	26055	Examination in Secs. 32, 33, 34, Tp. 59-24-4.
856-18	24150-B	Examination in Secs. 6, 7, Tp. 71-7-6.

CHANGES IN SURVEY.

Survey No.	File No.	Location.
571-18	23541	Change in survey in Lots 7-10, Tp. 78-5-6.
701-18	17953-D	Change in survey in Secs. 27-34, Tp. 58-20-4.
325-19	14752-C	Change in survey Lot 7, Victoria Settlement.
715-19	25012	Change in survey Lots 1 and 2, Tp. 79-5-6.
718-19	24147-B	Change in survey Secs. 5, 6, 8, Tp. 79-5-6.
730-19	24219-B	Change in survey Secs. 19-30, Tp. 71-7-6.
752-19	21596	Change in survey Secs. 13, 14, 15, 16, Tp. 57-23-4.

MISCELLANEOUS.

92-19	23170	Private road in N.W. ¼ Sec. 28, Tp. 58-15-4.
716-19	19446-C	Subdivision of portion of Spirit River Cemetery.
753-19	14114	Resurvey Edmonton-Athabasca Trail from Sec. 11, Tp. 61-24-4, to Sec. 23, Tp. 56-23-4.
327-19	23647	Removed posts on survey in Sections 6 and 1, Tp. 59-15/16-4; ran outlines of Agriculture Farm, South Edmonton.

EDMONTON, December 19, 1919.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton, Alta.

SIR,—I have the honour to submit the following report of my work in the District of Wainwright and vicinity for the season of 1919.

I organized my party in Edmonton on the 12th May, and after completing certain urgent surveys on the Government Highway near Bawlf, I moved into the vicinity of Lloydminster.

Towards the end of June I moved to Onion Lake and after completing work there, proceeded to the Beaver River crossing south of Lac la Biche, where I remained until the middle of July.

Returning via Frog Lake I made several surveys there and then moved into the R. M. of Streamstown, where I made a large number of outstanding surveys.

From there I worked south through the Municipalities of Wellington, Grizzly Bear, Merton, Ribstone, Sifton and Rosenheim.

Owing to the unusual severity of the weather, I was compelled to bring the season's work to a close about the 11th November.

The season was very favourable for survey work owing to the exceeding dryness of the weather.

I attach herewith a classified list of the season's work.

I am, Sir,
Your obedient servant,
A. CORMACK.

DIVERSIONS.

Survey No.	File No.	Location.
300-17	17507-B	Sec. 36, Tp. 49-2-4.
45-17	23786	Sec. 32, Tp. 50-1-4.
133-17	23867	Secs. 27, 28, 33, 34.

Survey No.	File No.	Location.
134-17	23868	Sec. 31, Tp. 41-1-4.
135-17	23869	Secs. 14, 15, Tp. 41-1-4.
269-17	23979	Secs. 30, 19, Tp. 49-2-4.
270-17	23980	Secs. 26, 22, Tp. 50-2-4.
272-17	23982	Sec. 10, Tp. 48-3-4.
647-17	24129	Sec. 5, Tp. 41-3-4.
669-17	24301	Secs. 21, 16, Tp. 48-4-4.
701-17	24319	Secs. 35, 26, Tp. 50-2-4.
702-17	24321	Sec. 35, Tp. 49-3-4.
13-18	24486	Sec. 6, Tp. 45-2-4.
15-18	24488	Secs. 22, 15, Tp. 45-2-4.
146-18	24592	Sec. 17, Tp. 37-3-4.
147-18	24593	Sec. 9, Tp. 37-3-4.
149-18	24594	Secs. 2, 35, Tp. 36/37-3-4.
148-18	24595	Sec. 15, Tp. 37-3-4.
152-18	24598	Secs. 24, 13, Tp. 38-3-4.
381-18	24793	Sec. 25, Tp. 49-2-4.
380-18	24795	Sec. 17, Tp. 48-3-4.
366-18	24800	Sec. 17, Tp. 43-1-4.
496-18	24920	Sec. 25, Tp. 49-3-4.
495-18	24921	Sec. 4, Tp. 49-2-4.
494-18	24922	Secs. 21, 16, Tp. 49-2-4.
493-18	24924	Secs. 11, 12, Tp. 48-2-4.
616-18	25121	Secs. 14, 23, Tp. 45-3-4.
671-19	20654-B	Sec. 13, Tp. 43-1-4.
412-19	22525	Secs. 28-33, Tp. 52-1-4.
652-19	26039	Sec. 12, Tp. 47-1-4.
245-19	22972	Sec. 5, Tp. 45-3-4.
9-19	25403	Secs. 1, 6, 31, Tp. 53/54-2/3-4.
240-19	25436	Sec. 13, Tp. 56-4-4.
165-19	25580	Sec. 22, Tp. 41-1-4.
199-19	25651	Sec. 9, Tp. 45-2-4.
657-19	25845	Secs. 24, 25, Tp. 44-2-4.
351-19	25854	Sec. 1, Tp. 55-1-4.
391-19	25931	Secs. 11, 14, Tp. 55-2-4.
531-19	26010	Sec. 24, Tp. 49-4-4.
700-19	26066	Secs. 22, 27, Tp. 40-3-4.
714-19	26079	Sec. 24, Tp. 41-3-4.

NEW ROADS.

590-15	21079	Blind line, Secs. 25, 26, 27, 34 and 35, Tp. 48-4-4.
527-17	20264	Blind line, Secs. 1, 10, 11, 23, Tp. 44-2-4.
193-17	23916	¼ line, Secs. 9, 10, Tp. 49-4-4.
449-17	24133	Blind line, Sec. 17, Tp. 48-3-4.
136-18	24585	Sec. 22, Tp. 55-4-4.
144-18	24590	¼ line, Secs. 35, 36, Tp. 36-3-4.
150-18	24596	¼ line, Sec. 3, Tp. 37-3-4.
492-18	24923	Secs. 5, 8, 9, 16, 17, Tp. 49-2-4.
841-18	25308	Blind line, Sec. 17, Tp. 53-3-4.
335-19	15108-B	Secs. 20, 29, 30, 31, 32, Tp. 63-12-4.
82-19	15336	Secs. 31, 30, Tp. 45-17-4.
8-19	25404	Blind line, Secs. 1, 12, Tp. 51-1-4.
112-19	25504	Secs. 23, 14, Tp. 55-2-4.
81-19	25543	Secs. 29, Tp. 45-17-4.
251-19	25550	Blind line, Sec. 29, Tp. 48-3-4.
148-19	25586	Blind line, Secs. 27, 28, 29, 30, Tp. 47-3-4.
617-18	25122	Secs. 19, 20, 30 and 31, Tp. 45-2-4.
233-19	25694	Secs. 2, 9, 10, 11, Tp. 55-1-4.
411-19	25825	Secs. 1, 12, Tp. 52-1-4.
415-19	25973	¼ line, Sec. 3, Tp. 54-3-4.
505-19	25992	Secs. 5, 8, 17, Tp. 43-2-4.
713-19	26081	Blind line, Sec. 18, Tp. 41-3-4.

CHANGES IN EXISTING SURVEYS.

227-14	20901	Secs. 15, 22, Tp. 52-1-4.
695-18	19182-B	Sec. 30, Tp. 48-1-4.

Survey No.	File No.	Location.
4-18	22973	Sec. 9, Tp. 45-1-4.
732-19	18446-B	Sec. 1, Tp. 43-10-4.

EXAMINATIONS.

271-17	23981	Sec. 33, Tp. 48-3-4.
274-17	23984	Sec. 31, Tp. 49-1-4.
699-17	24318	Sec. 20, Tp. 48-3-4.
151-18	24597	Sec. 7, Tp. 38-2-4.
382-18	24796	Sec. 31, Tp. 48-1-4.
453-18	24843	Secs. 26-23, Tp. 44-2-4.
452-18	24844	Secs. 27, 28, Tp. 44-2-4.
620-19	20948	Sec. 32, Tp. 49-4-4.

EDMONTON, December 16, 1919.

A. P. C. BELYEA, ESQ.,
Assistant Director of Surveys,
Edmonton, Alberta.

SIR,—I beg to report on my season's work in the Athabasca district for the past year.

The first work was the extension of the trail running northerly from Athabasca to the northerly end of Calling Lake. About thirty miles of trail was surveyed here. This road is used by freighters, especially in the winter, and the surrounding country is settling rapidly. After completing the Calling Lake trail in the early part of October, I moved my party west of Athabasca and starting at the existing survey at Long Lake, surveyed a trail to Smith, completing my work at the ferry on the Athabasca River.

After October 8th winter condition existed and retarded work considerably.

I shipped my outfit to Edmonton via E. D. & B. C. Ry., arriving here December 4th.

Attached is a list of surveys made.

Your obedient servant,

HARRY S. DAY,
District Surveyor and Engineer.

NEW ROADS.

Survey No.	File No.	Location.
106-19	25542	From north of Sec. 12, Tp. 68-22-4, to north of Sec. 36, Tp. 72-22-4.
667-19	17501	From N.E. cor. Sec. 22, Tp. 68-24-4, to ferry crossing of Athabasca River in N.W. ¼ Sec. 23, Tp. 71-1-5; from N.E. cor. Sec. 15, Tp. 70-26-4, to E. D. & B. C. Ry. in Sec. 23, Tp. 70-1-5.

EDMONTON, December 15, 1919.

A. P. C. BELYEA, ESQ.,
Assistant Director of Surveys,
Edmonton, Alta.

SIR,—I have the honour to submit herewith the following report in connection with surveys made during the fall of 1919 in the district of North Alberta. This work was principally to finish diversions on the Lacombe-Compeer Highway, and is classified under Road Diversions, Changes in Surveys and New Roads.

I organized my party of two men on September 11th, commencing field work immediately on the Calgary and Edmonton trail near Leduc. On completing this survey I moved south to Lacombe and east to Tees, commencing work on the Lacombe-Compeer Highway. I completed diversions at Tees, Nevis, Halkirk, Veteran and Monitor. From Monitor I moved to Altario for Road Foreman McTaggart in order to complete some small diversions and a new road near Altario, so that he could commence grading immediately. On completing these surveys I worked west on the main highway, finishing diversions between Altario, Kirriemuir and Monitor on November 1st.

From Kirriemuir I proceeded to Edberg, making a road diversion in section 8-44-19-4, disbanding my party in Edmonton on November 20th.

Heavy snowstorms, cold weather and wind commenced October 18th, making work very difficult in the prairie country. On account of drifts we could not use an automobile to go to and from work, making it necessary to store the car and to hire a team.

November 1st frost had penetrated in some places to a depth of one foot, the digging of pits was difficult, pits of two diversions being left for later on.

On December 15th I received instructions to make special surveys on the Edmonton-Lloydminster Highway at Innisfree and Kitscoty. I completed these surveys and returned to Edmonton December 19th.

Sketch plans were submitted as the work progressed, final returns and plans are now being prepared.

I am, your obedient servant,

O. INKSTER, D.L.S.

ROAD DIVERSIONS.

Survey No.	File No.	Location.
660-19	17805-B	Road diversion S.W. Sec. 16, Tp. 38-15-4.
684-19	20731-B	Road diversion N.E. Sec. 11, Tp. 35-5-4.
659-19	21226	Road diversion, S.W. Sec. 26, Tp. 38-16-4.
670-19	24355-B	Road diversion N.E. Sec. 11, Tp. 35-8-4.
735-19	25457	Road diversion S.W. Sec. 14, Tp. 35-4-4.
650-19	26040	Road diversion S.E. Sec. 5, Tp. 39-21-4.
682-19	26053	Road diversion S. ½ Sec. 14, Tp. 35-4-4.
685-19	26060	Road diversion N.E. Sec. 14, Tp. 34-2-4.
686-19	26061	Road diversion N.E. Sec. 2, Tp. 34-2-4.
687-19	26062	Road diversion N.W. Sec. 12, Tp. 34-2-4.

Survey No.	File No.	Location.
701-19	26063	Road diversion Secs. 8, 9, 16, 17, Tp. 34-2-4.
711-19	26078	Road diversion, Secs. 7, 8, Tp. 35-3-4.
712-19	26082	Road diversion S.E. Sec. 4, Tp. 35-3-4; N.E. Sec. 33, Tp. 34-3-4; N. ½ Sec. 34, Tp. 34-3-4.

CHANGES IN SURVEYS.

653-19	14--0-B-4	Change in Calgary and Edmonton Trail, Secs. 2, 11 and 35, Tp. 50-25-4.
643-19	14110-B-4	Change in Calgary and Edmonton Trail S.W. Sec. 30, Tp. 48-24-4.
646-19	14186-B	Change in survey S. ½ Sec. 29, Tp. 40-23-4.
651-19	16056-B	Change in survey S. ½ Sec. 27, Tp. 40-24-4.

NEW ROADS.

772-19	23166	Opening of Blind Line between Secs. 14 and 23, Tp. 34-3-4.
662-19	24650	Opening of road into Halkirk in N. ½ Sec. 24, Tp. 38-16-4.
734-19	26096	New road through Secs. 24 and 25 and Secs. 30 and 31, Tp. 34-1-4.
396-19	25871	New road in N.W. 8, S.W. 17, Tp. 44-19-4.

SPECIAL SURVEYS.

760-19	26113	Now road in N.E. Sec. 15, Tp. 51-12-4.
907-18	16033-B	Road diversion and opening of Blind Line S.W. Sec. 10 and S.E. Sec. 10, Tp. 51-11-4.
761-19	26114	Road diversion in N.E. Sec. 1, Tp. 51-4-4.
762-19	26115	Road diversion in S.W. Sec. 7, Tp. 51-3-4.

DRAINAGE BRANCH

EDMONTON, December 31, 1919.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton, Alta.

SIR,—I beg to submit the following report of the work of the Drainage Branch during the year 1919:

In the report for the year 1918 details were given showing the status of ten drainage projects that had been petitioned for under The Drainage Act. Petitions for four more districts were received during 1919, making a total of 14 drainage districts under consideration by this branch during the past year. Each Drainage Scheme as it is received is given a number, and below I am dealing with each one numerically.

District No. 1 (in the vicinity of Holden)—

Location: Parts of tps. 47 and 48 in range 15; of tps. 46, 47, 48 in range 16; of tps. 46, 47, 48 in range 17; all west of the 4th Meridian. The district was erected in 1918 and the contract for construction awarded to the Northern Construction Company. Actual excavation commenced in October, 1918, and proceeded through part of November. Work was resumed in April, 1919. The company operated three Bucyrus Drag-line machines and one Austin Ditcher and a ditching plow. 287,600 cubic yards on main ditches and 39,-641 cubic yards on laterals were excavated. A total of 327,241 cubic yards being excavated when work stopped on November 6th. It is estimated that about one-half the contract has been completed, and if the work proceeds at the same pace, the year 1920 should see it complete. In addition to excavation there were four bridges removed; 14 culverts erected and 4 bridges built.

District No. 2 (Wavy Lake)—

Location: Parts of tps. 44 and 45 in range 14; of tps. 44 and 45 in range 15, and tps. 44 and 45 in range 16, all west of the 4th M. Survey work was practically completed in 1918 and sufficient further information has been obtained during 1919 to prepare a report and refer the matter back to the petitioners.

District No. 3 (Killam)—

Parts of tp. 44, range 13, and tp. 44, range 14, west of the 4th Meridian. Survey work was completed; assessment made and appeals heard in 1918. Owing to considerable opposition on the part of residents in that district, the work has not progressed further than the preliminaries.

District No. 4 (Daysland)—

Parts of tps. 42, 43, 44, 45, 46, in range 16; of tps. 43, 44, 45, in range 17; and of tps. 44 and 45 in range 18, all west of the 4th Meridian. Survey work completed and assessment made in 1918. Tenders called for—the lowest one being submitted by The Northern

Construction Company. Contract has not been entered into pending sale of bonds. The estimated cost of the construction work in this district is $260,000, and this amount includes bridges, culverts, fencing and farm crossings and engineering.

Distrcit No. 5 (Bawlf)—

Parts of tps. 46 and 47, in range 17; of tps. 45, 46, 47 and 48, in range 18, all west of the 4th Meridian. Survey work completed and assessment made in 1918. Considerable opposition developed on the part of resident owners, but the withdrawals from petition were not sufficient to prevent it reaching the stage where tenders were called. On receipt of tenders it was considered advisable to refer the matter back to the petitioners, and as a result, so many withdrawals were received that further prosecution of the work had to be discontinued.

District No. 6 (Viking)—

Parts of tps. 47 and 48 in range 12, and of tps. 47 and 48 in range 13, all west of the 4th Meridian. Survey and assessment was completed in 1918. Contract for construction was awarded to Messrs. Kerr and Duncan. Work commenced in May, 1919. 62,837.9 cubic yards of excavation was done up to November, when the season closed. The work is practically complete, and two months in 1920 should see it finished. 20 culverts and 16 bridges were constructed. Cost of construction will be about $30,000.00.

District No. 7 (Dickson)—

Parts of tps. 35 and 36 in range 2; of tps. 35 and 36 in range 3, all west of the 5th Meridian. Survey and assessment completed in 1918. Tenders were called for during the summer of 1919 and the contract awarded to Mr. James O. McCabe, the lowest tenderer. Excavation commenced on September 1st. 9,069.4 cubic yards was taken out by the middle of November, when the work closed down owing to severe weather. Mr. McCabe is doing the work with a Bay City Dredge (walking type). This is not a very large undertaking, and the work should be finished during the coming year. The estimated cost is $33,000.00;

District No. 8 (Forestburg)—

Parts of tp. 42, in range 14, and of tps. 41 and 42, in range 15, west of the 4th Meridian. Survey work and assessment completed in 1918. Tenders were called for and the lowest tenderer was Mr. James O. McCabe. Contract has not been entered into pending sale of bonds.

District No. 9 (Ewing Lake)—

Parts of tp. 37, in range 20; of tps. 37 and 38, in range 21; all west of the 4th Meridian. Survey work was completed in 1918. Whether the assessment will be made during the coming year will depend largely upon the attitude of the resident owners. The cost of the work approximates closely the estimated benefit.

District No. 10 (Wetaskiwin)—

Parts of tp. 45, in range 23, and of tp. 45, in range 24, all west of the 4th Meridian. Survey work and assessment completed in 1918. The question of proceeding further with the work was referred to the resident owners and the result was that a large number withdrew

their names from the petition and the number of names remaining was not sufficient to comply with the provisions of the Act. The work was accordingly disallowed.

District No. 11 (Little Hay Lakes)—

Parts of tps. 48 and 49, range 21, and of tp. 49, range 22, west of the 4th Meridian. Survey work completed and office work advanced to the stage where assessment can be made.

District No. 12 (Big Hay Lake)—

Parts of tps. 47, 48 and 49, in range 22 and 23, west of the 4th Meridian. Petition for the formation of this district was received during the year and the survey has been partially completed. The investigation into the provision for a sufficient outlet for this scheme has been undertaken by the Reclamation Service of the Dominion Government and no definite decision has yet been arrived at. It is anticipated that in this scheme there will be Dominion Government lands that will be turned over to the Province to be sold and any money realized used toward paying the cost of the works.

District No. 13 (Beaver Hills Lake), near Tofield on the G.T.P. Ry.—

A petition was received from resident land owners whose lands abut on Beaver Hills Lake asking for investigation into possibility of controlling water level of the lake. A survey was made and while it was found that a channel could be constructed that would give the desired result, the cost would exceed the benefits, and the question is being referred to the interested land owners. The Dominion Government have also investigated this scheme during the year but their report has not yet been received.

District No. 14—

Parts of tp. 51, range 28, west of the 4th M., and part of tp. 51, range 1, west of the 5th M. A petititon has been received for the formation of a drainage district within the area. No investigation has yet been made.

General—

Two small drainage schemes were carried out under The Private Ditches Act by Municipalities during the year. Applications were received, though fewer than in previous years, owing to the dry season, for engineering assistance to Municipalities in providing drainage for roads. The necessary information was given.

Your obedient servant,

A. MACDONALD,

Drainage Engineer.

IRRIGATION DISTRICTS.

Procedure under The Irrigation Districts Act, 1915, came under the supervision of the Drainage Branch during 1919. The work consisted of receiving and checking petitions and boundaries. The present Act was early found to be difficult to work with the larger irrigation propositions, and during the latter part of the year considerable time has been spent preparing suggestions for a new and more comprehensive Act.

The Districts which were dealt with and the progress of each is as shown hereunder:

Taber Irrigation District, covering parts of tps. 9 and 10, in ranges 15, 16, 17, west of the 4th Meridian. This was first submitted in May, 1915, and erection into a district was ordered by the Minister in July of that year. The time for commencing work was year by year thereafter extended, the final extension being to December 31st, 1919. On July 26th of this year, the District finally passed a By-Law for the issue of debentures to the amount of $272,000.00, and on December 3rd of this year, the Minister assented to this By-Law as provided in Section 60 of The Irrigation District Act. The area consists of 29,000 acres.

Lethbridge Northern Irrigation District, covering parts of tp. 8, ranges 22, 23; tp. 9, ranges 21, 22, 23; tp. 10, ranges 19, 20, 21, 22, 23, 24; tp. 11, ranges 19, 20, 21, 22; tp. 12, ranges 19, 20, 21; tp. 13, range 21, all west of the 4th Meridian. This was submitted in July, 1919, and the erection of the district ordered by the Minister on October 23rd, 1919. The area is 200,000 acres.

Ready-Made Water Users' District, covering parts of tps. 8, 9, range 19, west of the 4th Meridian. This was submitted in September, 1918, and the erection of the District ordered by the Minister on 18th February, 1919. The area is 6,000 acres.

United Irrigation District, covering parts of tps. 3, 4, 5, in ranges 26, 27, 28, all west of the 4th Meridian. This was submitted in May, 1919, and the erection of the District was ordered on August 19th, 1919, by the Minister. The area is 41,750 acres.

Coaldale Water Users' District, covering parts of tps. 8, 9, in ranges 19, 20, 21, all west of the 4th Meridian. This district was submitted on May 30th, 1919. Returning Officer was appointed by the Minister on August 5th. Advice of election has not yet been received. The area is 21,000 acres.

Lone Rock Irrigation District, covering parts of tps. 5, 6, ranges 25, 26, 27, all west of the 4th Meridian. The provisions relating to election have not all been complied with as yet. The area is 17,000 acres.

The Southern Irrigation District, covering parts of tps. 5, 6, 7, in ranges 18, 19, 20, 21, 22, west of the 4th Meridian. Under consideration.

A. MACDONALD.

ARCHITECTURAL BRANCH

EDMONTON, December 31, 1919.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton.

SIR,—I have the honour to submit to you my report on the work performed by the Architectural Branch during the past year. There has been a great increase in the volume of work undertaken by this branch, first, in the erection of new buildings, and secondly, consulting services to other Government Departments. Under this latter head has been added the work in connection with Municipal Hospitals, which will undoubtedly be further increased with the future demand for Municipal Hospital Buildings. Under the head of the new construction are included buildings of a varied character, erected at Ponoka, Raymond, Youngstown, Gleichen, Medicine Hat and other points. The maintenance and operation of the various Provicial Buildings has been carried out in a most satisfactory and economical manner and all buildings now under the care of this branch are in perfect condition. Details of the work performed are as follows:

Provincial Asylum, Ponoka—

A contract was awarded at the end of 1918 for the erection of a Male Dormitory and Male Patients' Dining Hall. All further details in connection with this work have been completed; the construction of the building was commenced in April and is now approaching completion. Some delay was caused in the best part of the building season by the strikes which were prevalent at that time. The buildings are now, however, almost completed and are satisfactory in every way.

Plans, specifications and details were prepared for an addition in the main building, providing accommodation for a Nurses' Dining Room and additional cold storage space. Construction of this work was commenced on the first of November, and in spite of the severe weather the building is now practically closed in, which will allow construction to proceed in the interior during the winter months. Plans and specifications were also prepared for a new Laundry building, but it was decided to postpone construction until next year.

Plans and specifications were prepared for two pairs of semi-detached residences for attendants, these houses being frame buildings, provided with steam heat from the central power plant. Construction on these buildings has been completed and they are now occupied.

Agricultural Schools—

Plans, specifications and details were prepared for the erection of schools for the Department of Agriculture at Raymond, Gleichen and Youngstown. Tenders were called for the erection of these buildings and the lowest tender, that of Messrs. Smith Brothers & Wilson, Limited, of Lethbridge, was accepted for the erection of all three schools. Construction was commenced at Raymond in July, and this building is now closed in and plastered. Further work has been temporarily discontinued until heat can be provided.

Construction at Youngstown was commenced also in July, and the building is now roofed in ready for plastering. Work in this case has also been closed down temporarily until heating system is in order.

Owing to certain difficulties with reference to the site at Gleichen, construction on this building was delayed until October. The foundation walls have been constructed, but owing to the severe weather it was found necessary to close down on this building.

Plans and specifications were also prepared for the construction of work shops, power plants, stock judging pavilions, horse and cattle barns, implement sheds, granary, residences for the school and farm staff and other farm buildings. Tenders were invited for the construction of the work and were received in July. There was, unfortunately, some delay in this matter, and it was decided to construct only the work shops and power plants this year, postponing further construction until later. The tender of C. C. Potter & Company, Medicine Hat, was accepted and the contract awarded to them in September. Construction was immediately commenced at Raymond and Youngstown, but the severe weather coming almost immediately has resulted in these buildings being badly delayed, making it impossible to provide steam to the main buildings. Every effort is being made, however, to install boilers and connect up with the main buildings at Raymond and Youngstown, thereby allowing work to proceed at these two points.

Tenders were also later called for the erection of frame residences for the principals of the schools at Vermilion, Olds and Claresholm. Contracts were awarded to local contractors and all buildings are now practically completed.

Court House, Medicine Hat—

Plans for this building as prepared some years ago were discussed and it was decided that the modifications required were such that a new design seemed advisable. Amended plans and specifications were, therefore, prepared and tenders invited. The tender of Messrs. Bennett & White Construction Company of Calgary, being the lowest, was accepted and construction on this building was commenced early in August. Satisfactory progress has been made and in spite of the cold weather the roof is now on this building, which will allow construction to proceed during the winter. This building is entirely fireproof in all respects, the exterior being of brick with stone facings.

Alberta Central Sanitorium, Keith—

Amended plans for the construction of these buildings, as prepared by the Dominion Government, Department of Soldiers' Civil Re-Establishment, were referred by the Honourable Minister of Health to me for perusal and report. I advised certain changes in the construction, which after discussion with the Dominion Government were agreed to in part. I was then instructed to prepare amended specifications and some drawings sufficient to allow contractors to tender on the originals and, second, as described in the specifications and drawings prepared by this branch. On tenders being received it was found that the difference in cost between the two schemes was almost exactly the amount as estimated and it was, therefore, decided

to proceed with the construction of the buildings in accordance with the amended specifications. This branch has been called upon to exercise a measure of supervision over the construction of these buildings. The work of construction has proceeded in a satisfactory manner and should be completed ready for occupation in the early summer of 1920.

Normal School and Institute of Technology, Calgary—

A number of sketch plans were prepared in connection with this building and have been fully discussed with the Minister of Education and other officials of the Educational Department and a definite scheme has now been decided upon. Contract drawings are now being prepared by this branch, and it is anticipated that tenders will be invited on the constructions early in the spring of 1920.

Institute of Feeble Minded Children—

A number of sketches have been prepared in connection with these buildings, and the scheme is now being fully studied in reference to the site recently purchased.

In connection with the proposed construction of the two latter institutions, I was instructed to visit similar institutions in Eastern Canada and the United States of America. I, therefore, during the month of August, visited Toronto, Boston, New York, Montreal, Ottawa, London, Detroit and Chicago, and made careful studies of Technical Schools, Technical Institutes and Institutions for the care of feeble minded children, children's hospitals, etc. I was able in this way to secure a good deal of very valuable information to assist me in preparing designs for the buildings contemplated in this Province.

Decorations for Visit of H.R.H. the Prince of Wales—

This branch was called upon to prepare a scheme of decoration for the visit of H.R.H. the Prince of Wales, in September. Most of the preliminary sketches were prepared during my absence to the East, and immediately on my return, on September 4th, the actual work was put in hand and carried to completion under the supervision of the branch. This work consisted of decorating the exterior of the Parliament Buildings and the driveways leading to same, and the interior decorations of the Rotunda and Legislative Chamber for the Official Ball. The work was carried out most satisfactorily, and all agreed that the scheme was most effective. A good deal of credit for the success of this decorative scheme is due to Mr. J. B. Allen, my assistant, who was entirely responsible for the preliminary sketches and largely supervised the work.

Municipal Hospitals—

During 1918, plans and specifications were prepared by this branch for the erection of a Municipal Hospital at Mannville. The Mannville Hospital Board accepted the tender of Messrs. Bennett & White Construction Company of Calgary. The construction of this hospital was proceeded with under the supervision of this branch and has now been completed and occupied.

Plans and specifications in connection with the construction of other Municipal Hospitals in the Province, as prepared by other Architects, have been submitted to this branch for approval, all of

which work has been dealt with in a satisfactory manner and all hospitals under construction in the Province have been inspected from time to time.

Rural Schools—

This branch has continued to advise the Department of Education in the matter of Rural Schools, reporting on plans of schools submitted by other architects and others. A number of revisions in the standard plans have been made and also standard plans prepared for teachers' residences.

Over 150 plans have passed through this branch for inspection and advice, representing an expenditure on school buildings of over $500,000.00. In a number of cases it has been necessary to make inspections of buildings under construction. This work has been given the most careful attention and has been performed in a most satisfactory manner.

This branch has continued to administer the maintenance and operation of the various Provincial Buildings, and this work has been most satisfactorily performed under the direct supervision of the Superintendent of Buildings. All buildings have been carefully inspected from time to time and kept in proper condition, both as to maintenance and operation. For the proper carrying out of this work, the woodworking mill operating in Edmonton continues to give efficient and economical service and along with the convenience of having this plant to draw on for material as required is the knowledge that the plant is operating at a profit.

This gives you in detail the work as carried out by this branch, and I might add that the actual disbursements in connection with new construction amounts to approximately $620,000.00, and the disbursements in connection with the maintenance and operation amounts to approximately $240,000.00, or a total expenditure of $860,000.00 by this branch. The cost of performing the work amounts to 2½% of the expenditure.

I have the honour to be, Sir,

Your obedient servant,

RICHARD P. BLAKEY,

Provincial Architect.

MINES BRANCH

EDMONTON, February 21, 1920.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton, Alberta.

SIR,—In accordance with the provisions of The Mines Act, I herewith submit the report of The Mines Branch for the year ending December 31, 1919.

Amendments were made to The Mines Act at the 1919 Session of the Legislature providing that it is not necessary for a person holding a first class certificate to be placed in charge of mines where the coal is extracted by removing all the overlying strata. Provision was also made whereby all wages earned by any person employed in or about a mine shall be paid on the first Saturday after the twelfth day and the first Saturday after the twenty-sixth day of each month, instead of on the first and third Saturdays as formerly. Another amendment which was made provides that it is not necessary for the committee appointed by the employees to inspect a mine, to be at the time of such appointment, employed as practical miners. A further amendment took away from the employer the right to retain from the monies due any person a sum to cover doctors' fees. This was done in order to make The Mines Act in this respect, consistent with The Workmen's Compensation Act, 1918.

The explosive known as Miners' Friend No. 7, was added to the permitted list of explosives on March 29, 1919. The composition of this explosive is as follows:

Ingredients.	Parts by Weight.	
	Not less than	Not less than
Nitro-glycerine	9.5	7.5
Nitrate of Ammonia	70	66
Wood-meal (dried at 100 C)	9	7
Chloride of Sodium	16	14
Moisture	2	--

During the year 21 persons lost their lives as compared with 22 during the year 1918. Of these fatal accidents, 3 occurred above ground and 18 below ground. 11 persons were seriously injured above ground and 45 below ground, while 10 persons were slightly injured above ground and 44 below ground.

In addition to the inspections which have been made from time to time of the different mines by the District Inspectors, all fatal and serious accidents have been investigated and all inquests attended.

Samples of mine air have been taken throughout the year by the District Inspectors in addition to tests made by them with approved gas detectors.

2,424 safety lamps of the Wolfe type, 2,372 electrical portable lamps of the Edison type, 550 of the Wico type and 35 of the Ceag type are in use. It is gratifying to note that the number of electric lamps in use shows a considerable increase over the year previous.

Training in connection with Mine Rescue and First Aid Work has been carried on satisfactorily throughout the year, there being three mine rescue cars and six stations at present in operation. On July 1, 1919, a competition in Mine Rescue and First Aid Work was held under the auspices of the Rocky Mountain Branch of The Canadian Mining Institute, at Calgary. A further competition in Mine Rescue Work was held at Drumheller on July 29, 1919, under the auspices of the Red Deer Valley Coal Operators' Association. Fuller particulars of these competitions are given in the attached report of the Superintendent of Mine Rescue Stations. On March 1, 1919, the administration of all Mine Rescue and First Aid Work was taken over by The Workmen's Compensation Board.

There were 276 coal mines, 1 copper ore and 2 shale mines in operation during the year, 47 of which were opened, 11 re-opened and 34 abandoned. In addition to those abandoned 12 mines were temporarily closed.

Information was laid in 22 cases for contraventions of the provisions of The Mines Act, and twenty-one convictions obtained.

During the year Mr. Robert J. Lee resigned his position as District Inspector of Mines, Edmonton, to take a position as manager at the Monarch Mine operated by the North American Collieries, Ltd. Mr. William Shaw, District Inspector of Mines, Calgary, was transferred to the Edmonton district and Mr. David Shanks, formerly manager of the mine operated by the Brazeau Collieries, Ltd., was appointed District Inspector of the Calgary district.

The number of persons employed during the month of December, 1919, was 12,027, being an increase of 1,818 over the number employed during the month of December, 1918.

The question of widening the market for Alberta coal is still receiving a great deal of attention, although less coal was shipped to points outside the Province during the year 1919 than during the previous year. Notwithstanding the increased consumption of coal in Western Canada during the last few years, development in the coal mining industry has been carried on to such an extent that the amount necessary to supply all requirements is only about fifty per cent. of the possible production.

The production during the year 1901 for the whole of the North-West Territories was 346,649 tons, while in 1918 it had increased to 6,148,620 tons for Alberta alone. The amount of coal produced in the Province during the year 1919 was 5,022,412 tons, or a reduction of 1,126,208 tons below that produced for 1918. It is estimated, however, that approximately one million tons of the production in 1918 was not consumed during that year but was carried over in stock until the year 1919.

Notwithstanding the large increase that has taken place in the production of coal in Alberta during the last few years, there were

approximately two and one-half million tons imported from the United States during the year 1919 into territory which should undoubtedly be supplied entirely with Canadian coal. This would therefore mean that the possible market in Canada for coal produced in the Provinces of Alberta and Saskatchewan is from 7,500,000 to 8,000,000 tons per year.

During the month of December, 1919, 780,832 tons were produced in Alberta alone, which means that the mines in operation are capable of producing over nine million tons per year with the present labor, development, equipment and plant. It will, therefore, be seen that we are in a position to produce over four million tons per year more than we apparently can find market for at the present time.

In addition to the market referred to as being available in Canada, there is also a certain amount of market to be found in that portion of the United States immediately south of the International Boundary, although the high cost to the consumer appears to prevent this being done to any great extent at the present time.

In order to obtain and hold all the market available, it is necessary that the greatest attention be paid to the preparation of the product and that it is supplied to the consumer at the lowest possible price.

Unfortunately during the winter months when the demand for coal is greatest, the difficulties incidental to mining and transportation are also greatest, and we have experienced during the last few months a situation where the mines were producing less than fifty per cent. of what they were capable of doing at a time when there was actual suffering for want of fuel.

The question of the preparation and screening of coal requires greater attention than it has had in the past. A large number of complaints have been received from consumers that a great deal of foreign matter is mixed amongst the coal shipped from certain Alberta mines. These complaints have in many instances been investigated, and in practically every case were found to be justified. While more care should be exercised by the miner at the working face as to the condition in which he loads his coal into the mine car, this does not relieve the mine operator of the responsibility of seeing that all coal is shipped in as satisfactory a condition as possible. During the period of the year when there is no great demand for coal, better attention is as a rule given to preparation at certain mines, but when severe weather sets in and causes an abnormal demand, the coal does not get the same attention and the consequence is that the consumer becomes dissatisfied and looks elsewhere for his next supply.

The increase in the price of coal to the consumer during the last few years has had a tendency to restrict the market for Alberta coal.

While in 1915 domestic coal produced in Alberta was selling at $9.00 per ton in Winnipeg, today it is selling at from twelve to fourteen dollars per ton. This increase in price is accounted for principally by the enormous increases in wages and cost of material which have taken place during the last three or four years.

During the year 1919, 2,395,290 tons of domestic coal produced in Alberta, were sold for which an expenditure of $6,126,120.46 for wages was made, making a total cost throughout the Province of $2.55 per ton. During the month of December in the same year, 451,016 tons of domestic coal were sold for which an expenditure for wages of $1,031,112.78 was made, making a cost per ton during that month of $2.28, while during the month of April 85,478 tons were sold for which an amount of $308,025.21 was paid in wages, making a cost per ton for that month of $3.60.

It will therefore be noted that the cost per ton for production varies considerably according to the amount of coal produced, and that owing to the intermittent manner in which the mines are operating, the cost of production and consequently the cost to the consumer is very greatly increased. In order to enable the mines to operate more steadily and thus reduce the price to the consumer, the market must either be increased or the production reduced.

By comparing the statistics prepared by the different provincial governments, it will be noted that the average amount of coal produced per mine in British Columbia during the year 1918 was 92,106 tons, in Nova Scotia 89,516 tons, while in Alberta it was only 19,396 tons. This means that in Alberta there are approximately five times as many plants, office staffs and sets of officials as there are in the other provinces for the same production. This has also a considerable bearing on the conservation of coal. With the increased number of mines which are in operation there must necessarily be a larger percentage of coal which cannot be recovered. Since 1905 six hundred mines have been opened, and as there are at present only 276 mines in operation, 324 or 64 per cent. of the mines opened in the last fifteen years have been closed and abandoned.

During the same period 100,484,038 tons of coal have been affected by mining operations. Of this amount 47,227,498 tons were extracted, leaving a further 53,356,540 tons which have been developed, one half of which may possibly be recovered in the future, leaving a total of 26,628,770 tons which is lost beyond any chance of recovery. It has also been conservatively estimated that $37,110,775.00 have been expended in connection with coal mining in the Province since the year 1905, $9,813,500 or 26 per cent. of which was invested in mines which have been completely abandoned.

It is also significant that of the 324 mines abandoned since 1905 so far as can be ascertained from Government records, only three of those were abandoned because all the available coal had been extracted from the properties.

On June 4, 1919, a Commission composed of representatives of different interests was appointed for the purpose of making inquiry into and upon all matters pertaining to or concerning the coal mining industry, and the following is a copy of the report made by this Commission to His Honour, The Lieutenant Governor in Council on December 23, 1919.

REPORT OF COAL MINING INDUSTRY COMMISSION.

To His Honour,

The Lieutenant Governor in Council:

The undersigned Commissioners appointed by Your Honour by Commission bearing date the fourth day of June in the year of Our Lord One Thousand Nine Hundred and Nineteen, in accordance with the powers contained therein, beg leave to report that they have held sessions at Edmonton, Calgary, Drumheller, Wayne, Edson, Lethbridge and Blairmore, and have examined seventy-four witnesses, being in the estimation of your Commissioners a fair representation of all persons interested in the Coal-mining Industry, including the general public.

Your Commissioners have made inquiry into and upon all matters pertaining to or concerning the Coal-mining Industry of the Province of Alberta, and have considered various resolutions, correspondence, and exhibits, which have been submitted bearing on the questions under investigation. All of these are herewith respectfully presented for your consideration, together with a copy of the evidence taken.

Your Commissioners herewith submit their report, which has been made from the evidence submitted, and are of the opinion that the following matters have an important bearing on the Coal-mining Industry:

1.—Extension of Markets.

Many mines only operate one half of the year or less. If more continuous operation is obtained, the result will be a reduction in the price of coal to the consumer and steadier employment to the workman.

2.—Working Agreements and Method of Handling Disputes.

Provisions for making working agreements, the settling of disputes and such matters that employer and employee deal with, are not satisfactory.

3.—Housing Conditions and Sanitation.

At many mines the living and housing conditions, and matters pertaining to health and sanitation, are not in a satisfactry condition.

4.—Educational Facilities.

In some camps the educational facilities are inadequate.

5.—Loss of Capital Investment.

Much capital expenditure has been lost on account of failure to obtain reliable information about properties and marketing conditions before operations are commenced; and also owing to lack of sufficient capital being provided to carry on operations to a successful issue.

6.—Loss of Market.

A considerable loss of market has been sustained owing to:

(a) Cessations of work;
(b) Shortage of railway cars;
(c) Misrepresentation as to size and quality of coal.

7.—Sub-Leasing.

Sub-leasing of coal leases issued by the Federal Gvernment has the effect of unnecessarily increasing the cost of coal to the consumer.

8.—Freight Rates.

Existing freight rates militate against the marketing of Alberta coal in Manitoba and the United States.

9.—Purchasing Mine Equipment and Power.

Mine equipment and power, under the present system are too expensive.

10.—Conservation of Coal.

Large quantities of coal have been and are being lost through improper mining methods, as well as through cessations of work.

11.—Hospitals.

In many mining camps the hospital facilities are inadequate.

As the natural resources are not vested in the Crown in the right of the Province, but in the Crown in the right of the Dominion, or in private ownership, it is difficult for your Commissioners to determine what should be done with many of the questions which have been brought before them. Your Commissioners are of the opinion that, for the best interests of the Mining Industry in this Province, steps be taken at as early a date as possible to have the natural resources vested in the Crown in the right of the Province.

Your Commissioners further submit for your consideration the following recommendations, and unanimously recommend that the same be provided for, as far as possible, by legislation at the coming session of the Legislature:

RECOMMENDATIONS.

1. (a) That employees be required to use every effort to see that all coal is mined properly, and free from impurities, so that the best product will be obtained from the working face.

(b) That employers be required to see that all coal is properly prepared and graded before shipment.

(c) That railway cars are properly cleaned before being loaded.

(d) That better facilities for more prompt dispatch of cars from the mines to the point of consumption be obtained.

(e) That all invoices for coal sold, either by owners or dealers, shall have inserted on them the size and kind of screen over or through which such coal passes, and the name of the mine from which the coal is supplied.

(f) That in order to get correct weights, better provision be made for the taring of railway cars.

(g) That steps be taken to establish testing stations in different provinces, particularly in Manitoba, so that the buying public may be given information as to the uses and values of different coals.

(h) That a complete system of advertising Alberta coal be undertaken.

(i) That attention be given to the question of storage of coal by both consumer and dealer.

2. That a permanent Commission be appointed and given power by legislation to make working agreements and provide for the settlement of disputes.

3. That living and housing conditions and matters pertaining to health and sanitation be dealt with by the said Commission.

4. That the said Commission co-operate with the Department of Education with a view to seeing that satisfactory educational facilities are provided for all children of school age.

5. That before mining operations are commenced, the question of the advisability of opening a mine in any particular field, as well as the question as to the amount of capital required to open in that field, be referred to and approved by the said Commission, and that the administration of the regulation passed by Order-in-Council P.C. 2303, by the Federal Government, a copy of which is herewith attached, be vested in the said Commission.

6. That all matters pertaining to loss of market be placed under the jurisdiction of the said Commission.

7. That sub-leasing of coal lands, leased by the Federal Government, be prohibited.

8. That the services of an expert be obtained to investigate the question of freight rates, including the question of a preferential rate on slack coal, and a reduced rate on coal during the summer months previous to the movement of grain, and that the report of such investigation be submitted to the said Commission, with a view to bringing the facts before the Railway Commission for adjustment.

9. Your Commissioners are of the opinion that considerable saving would be attained if owners would establish some central purchasing agency, thereby standardizing equipment; also that a considerable saving would be attained if the power used were obtained from central power plants located in the various fields. The carrying out of these suggestions, in the opinion of your Commissioners, would decrease the cost price of coal, and would not only be a saving to the consumer, but, in addition, would tend to increase the market.

10. As this Province has within its borders the largest known coal resources in the world, the conservation of this heritage should be zealously guarded. Your Commissioners therefore recommend that you obtain authority from the Federal Government for the same Commission to be given full powers for the safe-guarding of this national asset.

11. That districts be formed, and proper hospital facilities be provided, in the various mining fields.

12. That legislation be enacted at the coming session, making provision for the appointment of a Commission which would be representative of:

(a) Owners;
(b) Workmen;
(c) Consuming Public;
(d) Provincial Government.

That such Commission, in addition to the matters above mentioned, have such authority as may be given to it from time to time by Regulation.

That such Commission also be made responsible for the proper equipment and running of mines to ensure safety.

Evidence has been submitted with respect to Old Age Pensions and Compulsory Health Insurance, but your Commissioners have not obtained sufficient evidence to reach a final conclusion, and recommend that the matter be further investigated.

DATED at Edmonton this twenty-third day of December, A.D. 1919.

JOHN T. STIRLING, *Chairman.*
WALTER SMITTEN.
JOHN LOUGHRAN.
W. F. MCNEILL.
HARVEY SHAW.

EXTRACT from Order-in-Council P.C. 2303, dated the twenty-first day of September, A.D. 1918, being the Regulation referred to in section 5 of the Recommendations:

"The lessee shall, before opening any mine on the lands described in the lease, and before extracting any coal therefrom, submit to the Minister plans and specifications showing in detail the manner in which it is proposed to open up, develop and operate such mine, and if the location contains more than one seam of coal, detailed information shall be furnished as to the particular seam which it is proposed to develop. No work shall be commenced for the recovery of coal, and no coal shall be extracted until such plans and specifications have been approved by the proper officer of the Department. The procedure to be adopted in opening up and operating a mine on the lands leased, as well as the particular seam of coal which shall first be operated shall at all times be in accordance with the provisions of regulations duly approved by the Minister, and failure to comply with the requirements shall render the lease subject to cancellation in the discretion of the Minister."

Your obedient servant,

JOHN T. STIRLING,
Chief Inspector of Mines.

NOTE.—The detailed report of the Coal Mines Branch is being published separately and a copy can be procured from the Department of Public Works.

STEAM BOILERS BRANCH

EDMONTON, January 23, 1920.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton, Alberta.

SIR,—I have the honour to submit to you the annual report of the Steam Boilers Branch outlining the administration of The Boilers Act during the year 1919.

We are again able to report a fairly successful year notwithstanding the shortage of inspection returns of agricultural boilers, due to crop failure. This has necessitated a good deal of unproductive travelling on the part of the Inspectors, particularly in the South and South-Eastern Districts. At least 800 tractions and portables have been put entirely out of service during the year.

The usual advertised Spring Examinations which have been held at a number of points in each district were omitted in five districts containing the least number of agricultural boilers. Our reason for discontinuing this service was on account of the continually decreasing number in attendance. Evidently the majority of those wishing to qualify are now aware of the monthly examinations held at each District Inspector's headquarters and take advantage of them instead of waiting until the Spring examinations.

A total of 132 examinations have been held during the year, 28 of these being at advertised points including Grande Prairie, Spirit River, High Prairie and Peace River Crossing.

Our records show a decrease of 14 per cent. in the total number of certificates of all grades issued as compared with last year and 21 per cent. less permits. This reduction is largely caused by the number of returned soldiers, holders of certificates, who are reinstated in positions held before enlistment, also on account of the number of tractors, etc., out of service for reasons above mentioned.

Many applicants for certificates of qualification, who had positions in view and required prompt attention, were examined at the head office by myself, or received a certificate in lieu in exchange for certificates held by them. The number issued in this manner, or on application through the mails, total 113 certificates and 27 permits.

We are able to report an increase in the number of designs submitted for survey and registration, which denotes an advance in the business and development of the Province. These included 38 boiler designs of various types, 9 designs of boiler and power plant accessories, also 3 designs and specifications for new power plants, in addition to the extension of several existing plants.

The Inspectors' weekly returns show 2,510 inspections to have been completed, which includes those conducted on high and low pressure boilers, boiler accessories, piping arrangements, blow-off tanks, air tanks, etc. These returns show an increase above last year's, which totalled 2,387 altogether.

Thirty-five boilers are reported in bad or dangerous condition. The majority of these were either closed down for repairs, or had their working pressure reduced to a safe limit, while one had to be condemned as unfit for further service.

There has been no loss of life or serious personal injury to anyone, due to the failure of a boiler, or by the operation of a boiler during the year, but we have to report the explosion of a small vertical dry top boiler which caused bodily injury of a temporary character to the owner, Mr. N. S. Nelson, who was operating it, also to two of his family. Investigation showed the boiler to have been in service for a number of years in a greenhouse near Lacombe. It was superficially inspected during that time by Inspector Douglas at the request of Mr. Nelson, who wished to purchase it providing the inspector thought it would be suitable for his purposes. Mr. Douglas reported the boiler to be 24 inches diameter by 44 inches high, the shell plates were originally 5-16 inch thick, built in about five sections and single rivetted throughout. By reason of long service and leakage the plates had become badly wasted around the handholes, and in consideration of the age of the boiler, it was not thought to be worth repairing, consequently he advised Mr. Nelson that it would not be satisfactory to him, as it could not be allowed the pressure required. Notwithstanding this advice Mr. Nelson purchased the boiler and installed it in the granary on his farm near Bentley, without notifying the inspector of his having done so. For this reason the boiler was not again inspected previous to the explosion, which demolished the granary and damaged the adjoining buildings, including the house which was located some 50 feet away.

Three of the 72 inch by 18 feet Horizontal Tubular Boilers, belonging to the Lake of the Woods Milling Company and in service at the Medicine Hat mills, were badly damaged last August by the firesheet becoming overheated, owing to oil deposits on the heating surfaces. Two of the boilers each contained three bulges ranging from 72 inches to 288 square inches in area and a depth of from 1-4 inch to 7-16 inch deep. This trouble was primarily caused by a poorly de signed oil filter which has been furnished with the condencing plant, formerly used in one of the Company's Eastern power plants. This did not properly eliminate the oil, but permitted it to pass into the boiler feed water and was carried over into the boilers, where it accumulated and insulated the plates sufficiently to allow them to overheat and distend under pressure.

It is further reported that the gas fired furnaces were not provided with checkered brick arches to diffuse and radiate the heat from the gas jets, consequently, the boiler firesheets were subjected to the direct impace of each jet which created an individual bulge in the plate. Evidently the Company had not benefitted by the experience of their neighbors, the Ogilvie Milling Company, who had 4 boilers badly damaged in the same way and for the same reasons in 1918. In each instance the mill had to be closed down until repairs had been completed.

A heavy deposit of mud on the firesheet of a 48 inch by 12 foot Horizontal Tubular Boiler belonging to the Excelsior Collieries, Limited, brought down the plate to a depth of 6½ inches last November.

The bulge in this instance extended well up the sides of the sheet, which was constructed in one single course longitudinally, thus providing two continuous lap seams from head to head. As the distension extended nearly from one seam to the other, we are of the opinion that these joints had been permanently weakened, and though the bulges have been largely taken out of the plate, the boiler is no longer safe to operate at the original pressure, but will have to be reduced. In this instance the engineer in charge was suspended for taking the risk of operating a boiler, knowing the same required cleaning out and to be, therefore, in an unsafe condition.

A 52 inch by 9 foot 4 inch, plain two course furnace, belonging to one of the Robb Mumford boilers at the Galt Mines No. 3, Staffordville, collapsed under pressure in October last. An investigation was held at Lethbridge to enquire into the cause and the evidence given by the Master Mechanic, the Assistant Engineer, the Fireman, etc., proved that the boiler, which had been temporarily out of service for wash out, after being filled with water to about 3-4 gauge, was nearly emptied by the fireman who opened the blow-off valve in order to lower the water level during the time steam was being raised, and owing to a false water level being shown in the glass he allowed sufficient to flow out to uncover the furnace, the upper section of which became overheated. He afterwards attempted to connect the boiler to the steam header by opening the main stop valve when the furnace roof gave way under the load and blew open the furnace doors, scattering the fire over the boiler room. Fortunately no one was injured. The furnace plate was stripped from the stays for a longitudinal distance of 7 feet by over three feet in width and depressed to a depth of 9 1-8 inches. This plant is exempted from our inspection by the Act and for this reason no action was taken to reprimand the engineers in charge, otherwise we would certainly have recommended you to have the master mechanic's certificate cancelled altogether and his assistants suspended for gross neglect of duty, such as the evidence given at the investigation revealed.

Several locomotive type boiler crown sheets are reported to have been brought down by overheating, due to low water. These are principally on tractors used for plowing purposes in the outer districts where the water level is usually carried at the lowest point possible to avoid foaming. In one instance the firebox was damaged by an engineer about two hours after he had been engaged. The man was not a qualified engineer under the Act, and, although the owner believed he held a certificate, he did not ask this man to show it to him.

For some years past we have felt the need of a definite ruling which would enable all concerned to satisfactorily fix the grades of certificates in any steam plant, as required by Section 41 of The Act. One of the principal difficulties in framing a satisfactory ruling was that the majority of steam plants contain one or more auxiliary boilers, while others have reserve boiler units in excess of their present needs. As these have previously been included in the rating in some instances, it was expected that any ruling which could be drafted would require too many changes in the staff of engineers in the plants affected to make a uniform ruling advisable. We are pleased to report that, with the assistance of the adjoining provincial Inspection

Branches, we have obtained a uniform interpretation of the foregoing section, which has been accepted by all the Western Provinces, also by the Engineers' Associations and Unions. All steam plants in the Province governed by the Act are now properly certificated according to this uniform interpretation, the changes in the engine room staffs being arranged without creating any hardship upon either the owners or engineers.

It was found necessary to suspend the certificates of five engineers, as recommended under Section 54 of the Act for neglect of duty and careless operation of the boilers under their charge.

Eight prosecutions are reported to have been undertaken for operation of traction and portable boilers without a license, contrary to the provisions of Section 4 of the Act. Four of these cases were conducted by the Inspectors and the balance by the Provincial Police. Two cases of prosecutions for the illegal operation of boilers without being in possession of an Engineer's Certificate also occurred, a fine of $25.00 and costs being inflicted in each case. The aggregate fines imposed and collected amounts to $100.00.

Reporting upon the revenue obtained from the collection of fees under the Act, you will note the summary (which follows herewith) shows a decrease of $521.68 below that of the year 1918, notwithstanding the increase in inspections made this year. This difference is entirely due to the falling off in the number of applications for Engineers' Certificates, as explained.

The expenditure on the other hand has increased about $2,550.00 on account of the increases in the salaries and subsistence allowance made to the staff.

Referring to the data noted in each Inspector's personal field record book called for by Section 12, Subsection 4 of the Act. The detail of defects found during inspection has not hitherto been tabulated for your information, but we are this year preparing a form to enable each Inspector to make uniform returns containing this information, which will be compiled and furnished to you, we hope, in our next yearly report, as I feel that our report is lacking in this respect.

A summary of the various types of boilers inspected during the year is as follows:

Horizontal Tubular	401
Horizontal Furnace	37
Return Tubular	46
Locomotive	1173
Vertical	158
Water Tube	92
Air Receivers	132
Steel Heating	253
Cast Iron Heating	216
Incinerators	2
Total	2510

The condition of these boilers was found to be as follows:

Good	1603
Fair	713
Moderate	158
Poor	35
Condemned	1
Total	2510

A total of 864 Engineers' and Firemens' Certificates were granted to successful candidates during the year, 87 of these being granted free to members of His Majesty's Forces, who had seen active service overseas, as provided for by Order-in-Council 551-18.

Under the provisions of Section 39 of the Act, 161 Permits were issued to owners of boilers and engines who were unable at the time to secure the services of duly qualified engineers.

The total expenditure for the year was $37,935.02.

The total revenue for the year was $26,145.51.

Boilers visited for inspection purposes total 2,510, comprising 2,001 high pressure and 509 low pressure boilers.

A schedule of Certificates issued, fees collected, expenditures of the Branch and the Inspectors' Annual reports follow.

I have the honour to be, Sir,
Your obedient servant,
F. W. HOBSON,
Chief Inspector of Boilers.

SCHEDULE.

	1918	1919
Number of Certificates issued for boilers inspected	2105	2179
Number of advertised examinations held for engineers	28	28
Number of First Class Certificates issued	6	4
Number of Second Class Certificates issued	26	18
Number of Third Class Certificates issued	135	142
Number of Traction Final Certificates issued	163	101
Number of Firemen's Final Certificates issued	55	45
Number of Provisional Certificates issued	447	345
Number of Renewals of Provisional Certificates issued	177	209
Number of Permits issued	207	161

FEES COLLECTED.

	1918	1919
For inspection of boilers	$ 7,583.00	$ 9,397.00
For special examination of boilers, etc.	1,420.19	577.01
For examination of candidates for final certificates	1,910.00	1,465.00
For Provisional Certificates	2,887.50	2,645.00
For Permits	1,445.00	1,207.50
For Survey of Drawings	166.50	309.00
For the issue of boiler license plates	11,160.00	10,545.00
Total	$26,667.19	$26,145.51

EXPENDITURES.

For the year ending December 31st, 1919, in connection with the administration of The Boilers Act.

Salaries and expenses	$28,446.50
Operation of six automobiles	4,231.35
Railway transportation	459.35
Printing, advertising and sundries	4,797.82
Total	$37,935.02

LETHBRIDGE, December 31, 1919.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton, Alberta.

SIR,—I have the honour to submit to you my annual report as Inspector of Boilers for the year ending December 31, 1919, in accordance with the requirements of Section 17, Clause 4 of The Boilers Act.

Examinations for engineers have been held in Lethbridge on the first Friday and first Saturday of each month throughout the year and the following show results of same:

Third Class Certificates	11
Traction Final Certificates	20
Firemen's Final Certificates	3
Provisional Certificates	49
Locomotive	1
Total	84

Five candidates failed to obtain sufficient marks for the class they were trying for, but were granted Certificates of lower grades.

A total of 242 boilers were inspected by me during the year. The following is a list of the types and condition of same:

HIGH PRESSURE.

Horizontal Return Tubular	60
Horizontal Furnace Tubular	17
Internal Furnace	6
Locomotive Firebox	76
Vertical	5
Water Tube	21
Air Receivers	17
Total	202

LOW PRESSURE.

Horizontal Return Tubular	31
Locomotive Firebox	6
Spencer Heaters	1
Cast Iron Sectional	2
Total	40

The condition of boilers inspected is as follows:

Good	189
Fair	47
Moderate	5
Condemned	1
Total	242

The number of Inspection Certificates issued was 233.

There has been one accident to a boiler in this district, a most miraculous escape from a serious explosion, caused by shortness of water. The boiler being old and damaged so badly it is not worth the expense of repairs. I am pleased to say that there was no one injured by this accident.

I have had a number of complaints of illegal operation, but upon investigation found there was nothing to them.

Thirty Permits were issued in accordance with Section 39 of The Boilers Act to enable owners to operate and keep their business going.

I made two special inspections of boilers imported into this Province from outside points, the owners defraying all expenses incidental thereto.

No boilers were inspected in the following districts during the year: Magrath, Spring Coulee, Woolford, Kimball, Aetna, Cardston, Leavitt, Granum, Claresholm, Rocky Coulee, Barons, Sundial and Iron Springs.

Number of letters received, 1,460.

Number of letters dispatched, 1,615.

I have the honour to be, Sir,

Your obedient servant,

N. MARSHALL,

Inspector of Boilers, District No. 1.

MEDICINE HAT, December 31, 1919.

L. C. CHARLESWORTH, ESQ.,

Deputy Minister of Public Works,

Edmonton, Alberta.

SIR,—I have the honour to submit to you my annual report as Inspector of Boilers for the year ending December 31, 1919, in accordance with Section 17, Clause 4 of The Boilers Act.

In the early part of the year I inspected all the boilers at the coal mines around Taber. Following this I covered all the districts adjacent to the Suffield-Lomond Railway and also the districts near the New Dayton to Coutts railroad, as those districts had not been covered the previous year. Few boilers were inspected this year between Medicine Hat and Taber and the country south of that railroad on account of the poor crops prevailing during the past two years. This condition necessitated a great deal of unproductive travelling and made my work difficult of accomplishment, as the most accessible boilers had not been operated since they were last inspected.

Examinations for engineers were held in the Court House here on the first Saturday of each month, and the following are the results of same.

Thirty-eight candidates were examined and recommended for Certificates as follows:

Third Class Certificates	9
Traction Final Certificates	6
Firemen's Final Certificates	1
Provisional Certificates	13
Renewal of Provisional Certificates	9

Four candidates failed to gain the certificates for which they were trying and were recommended for certificates of a lower class.

The small number of candidates presenting themselves for examination can be accounted for by the very small proportion of traction engines which have been operated in this district during the past two years, also to the lack of activity in the industrial lines.

The total number of boilers inspected by me during the year was 268, and the following summary gives the types and numbers in each class.

HIGH PRESSURE BOILERS.

Horizontal Tubular	53
Horizontal Return Flue	2
Locomotive	116
Vertical	9
Water Tube	6
Air Receivers	1
Total	187

LOW PRESSURE BOILERS.

Horizontal Tubular	31
Locomotive	8
Vertical	3
Patent Water Tube	2
Cast Iron Sectional	37
Total	81

Condition of boilers inspected:

Good	208
Fair	55
Bad	5
Total	268

Total number of Inspection Certificates issued, 227.

Three horizontal tubular boilers located in a milling plant here were damaged on the bottoms of the shells by overheating and bulging caused by heavy oil deposits.

The oil was carried over with the condensate from the main engines, and the filtration equipment being totally inadequate to cope with it, the oil was deposited on the boiler plates. The shells were fairly well repaired and the company, not wishing to go to the expense of installing an up-to-date filter, discontinued using the condensate.

A fireman employed at one of the flour mills here had one of his eyes so badly injured that it had to be removed. It appears he was either cleaning the glass or tightening up the nuts on a small lubricator attached to the fan engine when the glass burst and a piece of it struck his eye, with the foregoing consequences.

I am pleased to say I have no fatal accidents to report.

Thirteen Permits were issued during the year to owners who were not able to immediately secure the services of engineers holding the requisite certificates.

Three special inspections were carried out by me, and the expenses attached to same were defrayed by the owners of the boilers.

Five hundred letters and parcels were mailed from this office during the year and many personal calls attended to.

I have the honour to be, Sir,

Your obedient servant,

WM. GRAY,

Inspector of Boilers, District No. 2.

HIGH RIVER, December 31, 1919.

L. C. CHARLESWORTH, ESQ.,

Deputy Minisetr of Public Works,

Edmonton, Alberta.

SIR,—I have the honour to submit to you my annual report as Inspector of Boilers for the year ending December 31st, 1919, in accordance with Section 17-4 of The Boilers Act.

From January to the latter part of March I was engaged inspecting heating boilers in the city of Calgary, which had not been previously inspected, also a number of power boilers. When this work was completed I commenced inspecting boilers used on the farms and outlying districts, finishing the year in the oil fields west of Okotoks.

The regular monthly Engineers' examinations have been held at my headquarters at High River, during which time I examined a total of 44 candidates, of whom 36 were recommended for certificates graded as follows:

Third Class Certificates	1
Final Traction Certificates	1
Provisional Certificates	28
Renewal of Provisional Certificates	6
Total	36

Nine candidates failed to qualify for Engineers' certificates through lack of experience.

A total of 318 boilers were inspected by me during the year and 293 Inspection Certificates issued for same.

The boilers inspected may be classified as follows:

HIGH PRESSURE BOILERS.

Horizontal Return Tubular	13
Vertical	9
Locomotive Firebox	178
Water Tube	20
Receivers	16
Total	236

LOW PRESSURE BOILERS.

Horizontal Return Tubular	31
Internal Furnace	3
Locomotive Firebox	9
Vertical	1
Cast Iron Sectional	38
Total	82

Condition of boilers:

Good	181
Fair	130
Poor	7
Total	318

Owing to the poor crop conditions in my district the number of farm engines used this year is below the average of previous years. A greater number of small saw-mills and oil-well drilling rigs have been in operation since 1914 in this district.

I have no boiler explosions or accidents to report, but may say I caused many of the heating plants to have the pipes renewed and fittings overhauled and replaced in order to put them in a safe operating condition.

I had no occasion to prosecute anyone for the violation of The Boilers Act.

I did not issue any Permits because upon investigating each application for same I found that an engineer could be had without difficulty.

During the year I mailed 376 letters and received 323 letters and parcels.

I have the honour to be, Sir,

Your obedient servant,

A. W. DICK,

Inspector of Boilers, District No. 3.

CALGARY, December 31, 1919.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton, Alberta.

SIR,—I have the honour to submit to you my annual report as Inspector of Boilers for the year ending December 31, 1919, in accordance with Section 17, Clause 4 of The Boilers Act.

During January, February and March I obtained the services of Inspectors A. W. Dick, High River, and A. Bradshaw, of Hanna, and arranged to have as many heating plant boilers inspected as possible in the Calgary district. Mr. Dick was allotted the portion of the district south of the Canadian Pacific Railway main line, where ninety-two boilers were inspected and inspection certificates issued for same. Mr. Bradshaw was given that portion from 4th Street

East and 8th Avenue and north to the Bow River and west to 14th Street, which included several power plants, but principally heating plant boilers. Ninety-four boilers are shown to have been visited and inspected during Mr. Bradshaw's inspection tour.

There were no Engineers' Spring examinations advertised throughout the Calgary district. Examinations were held at headquarters on the first Saturday of each month throughout the year. There were 136 applicants during the year, twenty-three of whom could not show sufficient experience to allow them to sit for examination.

Certificates were recommended as follows:

First Class Certificates	1
Second Class Certificates	4
Third Class Ceritficates	31
Traction Final Certificates	15
Firemen's Final Certificates	22
Provisional Certificates	35
Renewal of Provisional Certificates	5
Total	113

207 boilers were inspected, types and condition being as follows:

Power Plants, Water Tube	19
Power Plants, Horizontal Return Tubular	79
Power Plants, Marine Dry Back	3
Locomotive Firebox, Stationary and Traction	42
Vertical Fire Tube, Power and Heating	43
Air Receivers	3
Kewanee Heating Locomotive Type	10
Cast Iron Sectional	8
Total	207

Condition of boilers inspected:

Good	90
Very Fair	86
Fair	31

Two hundred and one inspection certificates were issued for the above mentioned boilers. There were six locomotive type boilers which have been repossessed from the oil fields and examined, but no inspection certificates issued until same were thoroughly overhauled and put in good working condition.

There have been 19 boilers re-tubed this year; seven in heating plants; four horizontal return tubular; three vertical fire tube; and five locomotive types.

It is also noted that there is considerable pitting and corrosion taking place, principally in the heating plant boilers, attacking the tubes and shell plates, and when at all possible I have recommended electric welding.

I have no explosions or accidents to report.

No cases of fatal accidents or personal injury to any person have been reported in connection with the operation of boilers or steam engines.

There have been no prosecutions in this district this year.

Thirty-six Permits were issued from this office in accordance with Section 39 of The Boilers Act. I am pleased to report that no engineers' certificates have been cancelled or suspended in this district during 1919.

Number of letters received, 496.

Number of letters sent, 562.

There were ten parcels mailed from this office and six parcels received.

I have the honour to be, Sir,

Your obedient servant,

JOS. BUXTON,

Inspector of Boilers, District No. 4.

HANNA, January 2, 1920.

L. C. CHARLESWORTH, ESQ.,

Deputy Minister of Public Works,

Edmonton, Alberta.

SIR,—I have the honour to submit to you my annual report for the year ending December 31st, 1919, in accordance with the requirements of Section 17, Clause 4 of The Boiler Act.

On account of the poor crops for the last few years in this district, I had difficulty in collecting the inspection fee in many cases.

During the months of January and February I inspected heating boilers in Calgary, afterwards holding the Spring examinations and inspecting the stationary boilers at the following places: Monitor, Coronation, Stettler, Drumheller, Hanna, Oyen and Youngstown.

These examinations were well advertised in advance, but few candidates took advantage of this opportunity.

After the Spring examinations I inspected some of the boilers in the Drumheller Valley until the weather was favourable enough to go into the country.

In the early part of May I started into the country to inspect agricultural boilers, continuing this work until the weather became too severe in November. During the time I was inspecting agricultural boilers I covered a territory of approximately 11,000 square miles.

Engineers' examinations have been held at Hanna the first Saturday in each month throughout the year, as a result of which I recommended the issue of the following certificates:

Third Class Certificates	**14**
Traction Final Certificates	**6**
Provisional Certificates	**43**
Renewal of Provisional Certificates	**16**
Total	**79**

Seven candidates failed to qualify in the class written for, but were granted certificates of a lower grade. Two candidates failed entirely. Thirty-seven candidates were refused examination on account of not having sufficient experience, or unsatisfactory proof of experience.

Two engineers had their certificates suspended for negligence. Fred Hayes, of Consort, who is the holder of Third Class Traction Certificate, had same suspended for six months on account of not being sufficiently interested in the safety of the boiler under his care to go and look at it when the threshing outfit was on fire and leaving water in the tender and valves, the same being damaged by frost.

A. F. Urback, of Calgary, who is the holder of a Third Class Stationary Certificate, had the same suspended for thirty days for neglecting to wash out a horizontal tubular boiler under his charge, knowing that the said boiler was unsafe to operate with the water he was using.

The total number of boilers inspected during the year, condition of same and number of certificates issued are as follows:

Total number of boilers inspected	338
Total number of certificates issued	320

Condition of boilers inspected:

Good	238
Very fair	77
Fair	23

The following summary will give the types and number of each type:

HIGH PRESSURE BOILERS.

Horizontal Return Tubular	19
Internal Furnace Return Tubular	2
Locomotive Firebox	199
Vertical	10
Water Tube	3
Air Receivers	14
Total	247

LOW PRESSURE BOILERS.

Horizontal Return Tubular	26
Horizontal Furnace Tubular	2
Locomotive Firebox	4
Vertical	2
Cast Iron Sectional	57
Total	91

During the time I was inspecting heating boilers in Calgary I came across several cast iron sectional and steel boilers being used as water heaters. These heaters had a stop valve on both inlet and outlet, but were not fitted with any means for relieving excessive pressure. Should the heater be full of water and both valves closed when heat is applied, very little imagination is required to foresee what would be the result. These heaters not coming under my jurisdiction I could do nothing more than suggest that they have a safety valve attached.

The men in charge of heating plants I find, in most cases, do not know any more than to just throw coal on the fire. If they can see water in the glass they are not troubled in the least whether there is a false water level or not. A number of these heating plants could be operated on half the coal used at present if the operators understood their operation and if they were kept in a clean condition.

It would be well for architects in this climate to realize that the boiler room is as necessary as any other part of a building and to have it laid out as such, paying attention to the cleaning of the boiler, drainage, ventilation, coal storage, sufficient room to allow for renewing of boiler tubes and a means of escape from the boiler room which could not be accidentally cut off in an emergency.

I have to report the serious damaging of a horizontal return tubular boiler at the Excelsior Coal Mine, Wayne, on the 18th of November. This boiler is 48 inches in diameter and 11 feet 6 inches long, the lower sheet being in one course with sheet 7 feet wide, joints being double riveted lap. The engineer who was in charge of this boiler knew that the water in the sump, from which place he was getting his feed water, was very muddy, and knowing this he kept looking in the firebox, so he states. On looking into the firebox on one occasion when he had 90 pounds pressure on the boiler, he noticed the same was bagged to a considerable depth, so he put out the fire. Upon inspection I found the bag to be 6½ inches in depth, extending from within 1½ inches of front head flange along the boiler a distance of 4 feet and circumferentially 7 feet, the full width of the lower sheet. The thickness of the original plate was 5-16 inch, the thickness at the bottom of bagged portion being 7-32 inch. This bag I found to be not very local but a gradual sweep from the upper sides of the shell.

I am pleased to state that I have no accidents to report resulting in physical injury to anyone.

I have to report two cases of prosecution under Sections 11 and 40 of The Boilers Act. Both cases were dealt with by the Provincial Police, a conviction with fines being secured in each instance.

Twelve Permits were issued under Section 39 of The Boilers Act to the owners of boilers who, at the time, were unable to obtain the services of qualified engineers.

Five special inspections were made during the year, all expenses incidental thereto being defrayed by the owners in accordance with Section 16 of The Boilers Act.

Number of letters and parcels received, 345.

Number of letters and parcels sent, 515.

I have the honour to be, Sir,

Your obedient servant,

A. BRADSHAW,

Inspector of Boilers, District No. 5.

RED DEER, January 20, 1920.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton, Alberta.

SIR,—I have the honour to submit to you my annual report as Inspector of Boilers in District No. 6 for the year ending December 31st, 1919, in accordance with the provisions of Section 17-4 of The Boilers Act.

During the first 3½ months of the year I was employed inspecting boilers at Didsbury, Olds, Innisfail, Red Deer, Lacombe and Ponoka. I then started out with team working northwest to Gilby, from there to north of Rocky Mountain House, crossing the Saskatchewan and Clearwater and working south to township 29, then east to Crossfield and north to Red Deer, inspecting all boilers on the west side of the Calgary and Edmonton railway. Although 1918 was dry, and 1919 exceptionally dry, I had great difficulty in navigating in the muskeg country north-west of Leslieville. In one instance I had to detour fifty-one miles to make 12 miles as the crow flies, owing to fallen timber and muskeg. I then worked east of the Calgary and Edmonton railroad by automobile, and covered about two-thirds of this half of my district. During the month of November I was held up by bad weather and sickness, inspecting very few boilers ,and in December I inspected the boilers in Didsbury, Lacombe and vicinity.

Examinations for engineers were held at Red Deer Fire Hall on the first Saturday in each month. A total of sixty-three candidates presenting themselves for examination during the year. Of these, four failed to qualify for the grade for which examined, but were recommended for certificates of a lower grade. Three candidates were not allowed to write, as they failed to produce evidence of the experience required.

The following shows the number and classes of certificates recommended to be issued:

Second Class Certificates	1
Third Class Certificates	13
Traction Final Certificates	5
Final Fireman Certificates	1
Provisional Stationary Certificates	4
Provisional Traction Certificates	12
Provisional Certificates, Renewal of	23
Total	59

Four candidates were returned soldiers and were not charged the examination fee.

I am sorry to state that two first class certificated engineers have left my district and gone to British Columbia, where the remuneration for that class of engineer is much higher than in Alberta. This is to be regretted, as this Province in my opinion cannot afford to lose that class of engineer.

During the year I inspected three hundred and sixty boilers and air receivers, issuing certificates for 272. My reasons for not issuing certificates for the balance of eighty-eight were mainly because I

could not get assistance to fill the boiler, and in some instances I could not get assistance to fill the boiler, and in some instances I could not locate the owner in the west country. In the case of ten air receivers, I advised owners to discard them and install receivers built to specifications, which gave a higher factor of safety to the public.

The types and conditions of the boilers inspected were as follows:

PRESSURE BOILERS.

Horizontal Tubular	55
Vertical Tubular	29
Locomotive Firebox	180
Return Flue	10
Scotch Marine	1
Internal Furnace Tubular, Robb Mumford	3
Water Tube	2
Air Receivers	26
Total	306

LOW PRESSURE HEATING BOILERS.

Horizontal Tubular	19
Locomotive Firebox	5
Vertical Cast Iron Section	3
Horizontal Cast Iron Sectional	27
Total	54

Condition of boilers inspected:

Good	202
Very fair	98
Fair	50
Not allowed to operate, air receivers	10

Quite a number of the boilers in the southern part of my district were not used owing to the crop failure. The drought causing shortage and poor quality of water made some steam owners in the Three Hills district purchase internal combustion tractors.

The dairying industry in my district has made great strides, resulting in three new and one second-hand boiler being installed in creameries and cheese factories.

In January and March I also made two special inspections of boilers, one at Mayton and one at Sundre. In both instances I had fairly favourable weather for that time of the year, and was able to apply the hydrostatic test in the field. In October I also investigated the explosion of the small vertical boiler at Mr. N. S. Nelson's farm near Bentley, a report of which you have.

No accident resulting in injury to any person was reported to me during the year, excepting the explosion at Bentley, and as this boiler did not come within the meaning of the Act, owing to it being used exclusively for heating water for domestic purposes, it is hardly within my jurisdiction to go into the matter excepting to state that the accident was preventable. Three years ago, Mr. Nelson was advised against purchasing the boiler, and the owner was cautioned not to sell, as it was then not worth repairing and practically impossible to put in a safe working condition. Had Mr. Nelson accepted my advice, he and two members of his family would not have suffered, both physically and financially. The economic loss to the Province is also

to be considered in time lost by Mr. Nelson and family, together with the several trips made by the doctor. This emphasizes the need for the adoption of every possible means for accident prevention.

One complaint of illegal operation of a boiler was made to me, which was handed to the police for investigation. The evidence was not conclusive enough to warrant action being taken.

Twelve Permits under Section 39 of The Boilers Act were issued to owners upon production of affidavits on Form 20 regarding their inability to secure the services of duly qualified engineers.

Letters and parcels mailed total eight hundred and ninety-one. Of these, seventy-six were mailed under registered cover.

I have the honour to be, Sir,
Your obedient servant,
JNO. DOUGLAS,
Inspector of Boilers, District No. 6.

CAMROSE, January 14, 1920.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton, Alberta.

SIR,—I have the honour to submit to you my annual report as Inspector of Boilers for the year ending December 31st, 1919.

The early months of the year were spent in inspecting boilers in the various towns in my district, also holding examinations for Engineers at different points. The spring, summer and fall months were spent in inspecting agricultural boilers, but this work had to be cut short on account of the early setting in of winter. Practically six weeks inspecting this class of boilers were lost on account of the early snow fall. Early in October I had to abandon my car at Hardisty and return to headquarters on account of the snow. After waiting some time for the roads to become passable again, I decided that it was useless waiting any longer, so I arranged a trip by team, taking in the district west of Battle Lake, where a number of small sawmills are located, some of which are inaccessible in the summer months. This work necessitated a number of long hard drives. Upon the completion of this trip the balance of the year was spent inspecting in the city of Wetaskiwin.

In addition to the spring examinations for engineers, which were held in Wetaskiwin, Viking, Wainwright, Provost and Killam, monthly examinations were held in Camrose.

The following is a summary of the Certificates recommended by me:

Second Class Certificates	1
Third Class Certificates	3
Traction Final Certificates	9
Firemens' Final Certificates	4
Provisional Certificates	35
Renewal of Provisional Certificates	30
Total	82

One candidate failed completely. Thirteen failed for the class written for, but were granted Certificates for a lower grade, and four were turned down for lack of experience.

The following is a summary of the boilers inspected by me:

HIGH PRESSURE.

Horizontal Tubular	21
Return Flue	8
Locomotive Firebox	155
Vertical	7
Air Receivers	10
Total	201

LOW PRESSURE.

Horizontal Tubular	9
Locomotive Firebox	2
Cast Iron Sectional	15
Total	26

Condition of boilers inspected:

Good	126
Very fair	55
Fair	33
Poor	6
Visited, but not inspected	7
Total	227

Number of Inspection Certificates issued, 118.

Owing to crop conditions in the Eastern part of my district a very small proportion of the boilers used for agricultural purposes were in operation during the year. On account of the light crop and shortage of water the owners found it more profitable to hire light gas tractors to do their threshing.

I have no serious accidents to report as the result of a boiler explosion. One man was killed by getting pinned between the separator and engine when backing up to the separator.

I have no cases of violation of any Sections of The Boiler Act to report.

Nine Permits were issued by me during the year under Section 39 of The Boilers Ait, to owners who were unable to secure the immediate services of duly qralified engineers.

Two special inspections were made, all expenses incidental thereto being defrayed by the owners in accordance with Section 16 of the Act.

I have the honoor to be, Sir,

Your obedient servant,

J. F. HAWKINS,

Inspector of Boilers, District No. 7.

EDMONTON, January 3, 1920.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton, Alberta.

SIR,—I have the honour to submit to you my annual report as Inspector of Boilers for the year ending December 31st, 1919, in accordance with the requirements of Section 17, Clause 4, of The Boilers Act.

During January I inspected boilers and plants along the main railroad lines west of Edmonton and later worked around and about Edmonton until the holding of engineers' spring examinations again necessitated my leaving headquarters.

Engineers' spring examinations were held in March at eight different towns west, north and east of Edmonton. In addition, candidates coming to Vegreville have been allowed to take examination once per month.

The total number of candidates examined for Engineers' Certificates was 70, summarized as follows:

Third Class Certificates	10
Traction Final Certificates	7
Provisional Certificates	28
Renewal of Provisional Certificates	25

Each of the above obtained grade of certificate as stated, two having failed for Second Class and being included in number of Third Class.

The total number of boilers inspected was 239, of which 200 were in good, 86 in fair and 3 in poor condition.

The following is a summary of the boilers inspected by me:

HIGH PRESSURE.

Horizontal Return Tubular	19
Internal Furnace	4
Locomotive Firebox	146
Vertical	14
Water Tube	6
Air Receiver Tanks	35
Total	224

LOW PRESSURE.

Horizontal Return Tubular	26
Internal Return Tubular	3
Locomotive Firebox	5
Vertical	2
Cast Iron	29
Total	65

No case of accidents or fatal injury to any person has come to my knowledge in connection with boilers or engines.

Five cases of violation of Section 37, Sub-section 3 of The Boilers Act were taken up and convictions obtained in each case.

Eleven Permits were allowed to owners of boilers in order to keep the boilers operating until qualified engineers could be obtained.

Three special inspections, as allowed under Section 16 of the Act, were covered by me at the owner's expense.

Number of letters sent out by mail numbered 665.

I have the honour to be, Sir,
Your obedient servant,
J. H. MAINWARING,
Inspector of Boilers, District No. 8.

EDMONTON, January 2, 1920.

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton, Alberta.

SIR,—I have the honour to submit to you my annual report as Inspector of Boilers in the Edmonton district for the year ending December 31, 1919, in accordance with Section 17, Clause 4, of The Boilers Act.

The year has been principally occupied with boiler inspection work, with the exception of the month of March, which was almost wholly taken up with spring examinations of candidates for engineers, these being held at Grande Prairie, Spirit River, High Prairie, Peace River and Morinville. Examinations have also been held regularly on the first Saturday of each month throughout the year in Edmonton.

The following summary shows the number of candidates examined, and the classes of certificates recommended:

First Class Certificates	1
Second Class Certificates	10
Third Class Certificates	52
Traction Final Certificates	18
Firemen's Final Certificates	12
Provisional Certificates	80
Renewal of Provisional Certificates	28
Total	201

Twelve candidates failed to obtain the certificate for which they wrote, but were granted certificates of a lower grade. Several applicants could not be permitted to undertake an examination owing to their inability to produce evidence of having had the necessary experience.

The number of boilers inspected during the year totalled 261, and the various types are enumerated as follows:

HIGH PRESSURE BOILERS.

Horizontal Return Tubular	82
Horizontal Furnace Tubular	14
Internal Furnace Tubular	13
Locomotive Firebox	81
Vertical	32
Water Tube	15
Air Receivers	10
Incinerators	2
Total	249

LOW PRESSURE BOILERS.

Horizontal Return Tubular	5
Locomotive Firebox	1
Vertical	1
Water Tube	2
Cast Iron Sectional	3
Total	12

Condition of boilers inspected:

Good	169
Fair	79
Moderate	9
Bad	4
Total	261

Total number of Inspection Certificates issued, 240.

A good deal has been accomplished in this district in the repairing of minor defects in boilers, such as cracked tube sheet ligaments, cracked fire door rings, wasting of plate around hand-holes and retipping of flues by the Oxy-Acetylene welding process, which is proving satisfactory for such work.

I am pleased to be able to state that no boiler explosion or accident of a serious nature in this district has been reported to me during the year, neither has any report reached me regarding personal injury to anyone in connection with the operation of engines and boilers.

During the year ten Permits have been issued under Section 39 of The Boilers Act to owners of steam boilers on production of evidence of their inability to secure the services of certificated engineers.

Four special inspections of boilers were made at the request of the respective owners, all expenses being defrayed by them as required by Section 16 of the Act.

Correspondence has not been heavy, but has been fairly consistent throughout each month, a total of 623 letters having been dispatched.

I have the honour to be, Sir,

Your obedient servant,

J. F. CARGILL,

Inspector of Boilers, District No. 9.

ACCOUNTING BRANCH

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton, Alberta.

SIR,—As Accountant of the Department of Public Works, I beg to submit herewith my annual report for the year ending December 31, 1919.

A comparison of the figures given below, with those of previous years, will show a steady increase in the detail work of the Branch.

The various ledgers recording details of expenditure by vote, and on Highways (Main, District and Local), Bridges, Ferries, Buildings, Construction, Maintenance and Administration, have all been duly balanced and found in agreement with the records of the Provincial Auditor.

The total number of vouchers passed to the Treasury Department for payment during the year was 14,938, and the number of vouchers passed in connection with Local Improvement District Trust Account "A" Funds total 1,445, making a grand total of 16,383.

Number of cheques issued in connection with Trust Account "A," in payment of accounts	4,236
Number of cheques issued in connection with General Revenue Suspense Account during the year	493
	4,729

It may interest you to note, in connection with the totals given above, that of the total number of vouchers passed by the Audit from all Departments, 42% of same were received from this Department, and at a very conservative estimate 50% of the cheques issued by the Treasury were in payment of vouchers of the Department of Public Works.

A total of 4,060 letters were mailed from the Branch during the year.

The total amount of monies received from all sources during the year and deposited with the Provincial Treasurer was $351,427.92, and the sum deposited in General Revenue Suspense totalled $61,-470.68, an increase of $109,075.85 over the total of the previous year.

Of the amount deposited in Suspense, there is a cash book balance of $20,848.47. The major portion of this balance is made up of several large amounts of which definite information in regard to their final disposition was not to hand when the financial year closed.

A comparison of the cash totals for 1919, with those of the previous year, shows that the increase of $109,075.85 may be accounted for as follows:

An increase of about $2,000.00 in the amount derived from the sale of gasoline to employees of the Government. (I may say in this connection that the number of cars obtaining supplies more than doubled the number of the previous year).

Revenue derived from The Mine Owners' Tax Act shows an increase of $79,518.27. Sale of produce by the Institutions gave an increase of about $5,000.00, the balance being accounted for by a considerable increase in the amount collected for repairs to automobiles, cartage charges collected from other Departments for services rendered by the Public Works Trucks and sundry other items.

The Steam Boilers Branch total of revenue received for 1919 as compared with that of the previous year, shows a slight decrease.

The total amount received from Units and placed to the credit of Trust Account "A" Funds was $244,941.93. From this amount there was expended during the year for all work, $230,784.79, which included $10,000.00 paid to the Provincial Treasurer as the proportion to be borne by this account, for the cost of administration through the Department of Municipal Affairs.

The staff of the Branch consists of the Accountant, Assistant Accountant, seven Clerks and one Messenger.

Respectfully submitted,

TOM S. S. DAVIES,

Accountant.

CORRESPONDENCE BRANCH

L. C. CHARLESWORTH, ESQ.,
Deputy Minister of Public Works,
Edmonton, Alberta.

SIR,—I have the honour to submit herewith the annual report of the Correspondence Branch of the Public Works Department for the year ending December 31st, 1919.

Letters Received.

Branch.	No.
Highways	18,061
Surveys and Drainage	10,958
Coal Mines	10,432
Steam Boilers	4,393
Accountant & Architect	16,488
	60,332

Letters Sent.

Branch	No.	Postage.
Highways	16,086	$593.73
Surveys	13,487	338.81
Drainage	1,316	76.76
Coal Mines	13,364	341.73
Steam Boilers	6,831	264.12
Accountants	4,060	122.72
Architects	8,540	222.33
	63,684	$1,960.20

Cash Received.

Branch	Entries.	Amount.
Coal Mines	2,831	$214,011.26
Steam Boilers	1,370	26,592.86
Surveys	381	8,989.77
Architects	375	64,613.21
Accountants	91	22,283.16
	5,048	$336,490.26

Cash received and transferred to other departments $4,255.43

Registered letters sent 5163

Registered letters received 1808

New Files Made and Indexed.

Surveys Branch	906
Highways Branch	690
Coal Mines Branch	97
Drainage Branch	24
Architects Branch	19
	1736

The following comparative statement shows a slight increase over that of the previous year:

	1918	1919
Number of letters received	59,577	60,332
Number of letters sent	60,515	63,684
Total number of communications	120,092	124,016
Number of items of cash received	4,288	5,048
Amount of cash received	$238,650.26	$336,490.26
Number of registered letters received	1,990	1,808
Number of registered letters sent	7,107	5,163
Amount of postage used	$2,083.73	$1,960.20
Number of new files made and indexed	1,696	1,736

Respectfully submitted,

W. T. AIKEN,

Chief Correspondence Clerk.